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Upper Colorado River Special Recreation Area Management Plan within the Kremmling Field Office

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U.S. Department of the Interior
Bureau of Land Management
Colorado
Kremmling Field Office
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1. INTRODUCTION

1.1. Identifying Information

Project Title: Upper Colorado River Recreation Area Management Plan

Legal Description: Grand, Summit, and Eagle Counties, Colorado, 6th P.M.;
T. 1 S., R. 81 W., Sec. 7, 18;
T. 1 S., R. 82 W., Sec. 12, 13, 22, 23, 24, 27, 28, 33;
T. 2 S., R. 82 W., Sec. 4, 5, 6, 7, 18;
T. 2 S., R. 83 W., Sec. 13, 24, 25, 26;
T. 1 N., R. 80 W., Sec. 14, 15, 16, 19, 20, 29, 32;
T. 1 S., R. 80 W., Sec. 34, 35;
T. 2 S., R. 80 W., Sec. 2;
T. 1 N., R. 79 W., Sec. 8, 10, 11.

NEPA Document Number: DOI-BLM-N02-2017-0028-EA

1.2. Background

The Upper Colorado River between Parshall and State Bridge is a popular recreation area in Grand, Summit and Eagle Counties in Colorado. In order to effectively manage this area, the Bureau of Land Management (BLM) Kremmling Field Office (KFO) has prepared an Environmental Assessment (EA) that describes and analyzes alternative approaches to managing the site. The BLM will utilize the information contained in this EA to formulate a final Recreation Area Management Plan (RAMP) that would guide the BLM's actions on this stretch of river for the next ten to 15 years.

The 2015 KFO Resource Management Plan (RMP), in recognition of the site's value as a recreation resource, reaffirmed the designation of the river corridor as the Upper Colorado River Special Recreation Management Area (SRMA) (Appendix A, Figure 1). In 2015, the BLM Colorado River Valley Field Office Approved Resource Management Plan also reaffirmed the designation of the river sections below State Bridge to Dotsero as an SRMA. The two BLM Field Offices coordinate on the management of the entire Upper Colorado River corridor; however, in all respects, this EA focuses solely on BLM management within the KFO boundary, from Parshall to State Bridge.

The Upper Colorado River SRMA boundary defines the planning area, helps determine the management of recreation use, and represents a commitment from the BLM to enhance visitor recreation experiences when compared with BLM-administered lands outside the SRMA. The SRMA designation provides for the protection of physical, social, and operational Recreation Setting Characteristics (RSCs). The SRMA boundary was expanded in an RMP Amendment in 2000 to include sites upstream from its original boundary, adding several fishing sites. The Approved 2015 KFO RMP further expanded the SRMA boundary upstream to add another two fishing sites, and to incorporate lands along the Colorado River Headwaters National Scenic and Historic Byway (CRHNSHB) that contribute to the SRMA's natural

setting. The SRMA is heavily used during the summer season by commercial outfitters and by private visitors for rafting, kayaking, camping, hiking, extreme off-highway vehicle use, and fishing.

SRMAs may be subdivided into Recreation Management Zones (RMZs) to further delineate targeted recreation opportunities for which they would be managed. Recreation and visitor service management utilizes RMZs to identify where targeted recreation opportunities and RSCs are to be managed and protected on a long-term basis. RSCs were identified through the development of the 2015 Approved KFO RMP with public involvement, and identify how best to manage for resources and settings. Recreation settings contribute to a high-quality experience for visitors and incorporate the physical, social and operational settings that help identify management actions and allowable use decisions that are necessary to address the protection of the recreation settings in the Upper Colorado River SRMA. The BLM KFO manages five distinct RMZs within the Upper Colorado River SRMA (Figure 1, Appendix A). Below is a description of each RMZ currently managed within the Upper Colorado River SRMA.

RMZ 1:
The stretch of river between Parshall and Kremmling is managed for wade fishing, scenic touring and wildlife viewing. The RMZ runs along the river and the CRHNSHB and incorporates the Junction Butte Watchable Wildlife Area. BLM manages five day-use fishing access sites in RMZ 1. Boating activities upstream of Kremmling are minimal.

RMZ 2:
The Gore Canyon segment is a nationally significant, Class V whitewater section. Use of this section by boaters occurs in late summer, when flows drop on other Class V sections around the state and nation. An annual whitewater race, which attracts participants from across the country, takes place in the canyon every August under a Commercial/Competitive Special Recreation Permit. Gore Canyon is managed for floatboating and hike-in wade fishing. The BLM manages one day-use boat access site at the Colorado River's confluence with the Blue River.

RMZ 3:
The vast majority of recreational use along the Upper Colorado River occurs on the section of river in RMZ 3 between Pumphouse Recreation Site and State Bridge Recreation Site. This section of river is the primary recreation attraction within the KFO. It is managed for Class II to Class III floatboating, fishing, hiking and camping. Visitation to the Upper Colorado River SRMA within this RMZ has doubled in the last ten years. Private use accounts for approximately half of the current use, having gradually exceeded commercial visitation as the majority user.

BLM manages three developed recreation sites, Pumphouse Recreation Area, Radium Recreation Area, and State Bridge Recreation Site within RMZ 3. Pumphouse and Radium offer developed campgrounds, while all three sites offer information, parking, restroom, and trash facilities, and boat ramps. A Recreation Use Permit program is currently in place, with fees charged per night for developed campsites and per vehicle, per day for all visitors entering any of the developed recreation sites. Most of the campsites at Pumphouse Campground were not designed for use by RVs or campers – they lack pull-in or pull-through parking spaces. Existing use by these vehicles impedes traffic within the lower loop, creating user conflicts and creating a public safety hazard.

Dispersed camping is allowed anywhere along this stretch of river outside of developed recreation sites. Under existing management, visitors often float the river some days or weeks ahead of their planned visit to drop personal items, such as a tent or other gear to hold their site of choice, which discourages others from using it. As a result of this "camp grabbing," many sites go unused for days at a time while they are held by personal items. The resulting apparent lack of available campsites has led to the creation of other new and undesired dispersed sites and associated resource damage, such as sanitation issues, loss of surface vegetation and damage to trees from the harvesting of branches for firewood, campfire scars, and river bank erosion.

Pit toilets that previously existed along this river segment were removed in 2013 because they did not comply with the Safe Drinking Water Act. Since that time, exposed human waste has become a prevalent health and safety issue. Visitors who do not willingly carry portable toilet or waste devices are limited to burying their waste. While many visitors without portable toilets or waste devices do bury their waste responsibly, there are also many visitors who are either unprepared or unwilling to do such. The resulting exposed human feces and toilet paper is a hazardous waste issue at many sites as well as an attractant and hazard for wildlife. This continued sanitation issue has been cumulatively adding to the leaching and contamination of soils and water.

The historic Argentine Trail, designated for foot and horse traffic, provides access to dispersed fishing sites along this stretch of river and the Radium Warm Springs site. The Argentine Trail, combined with the Warm Springs trail network, can be through-hiked between the Radium area and Gore Canyon Ranch in RMZ 5. At Gore Canyon Ranch, the Argentine Trail connects to a primitive road that continues on to the Pumphouse Recreation Site. The Argentine Trail has been maintained over the years, but has some narrow sections that the public must hike carefully, and an area that will require significant work above the Needles Eye Rapid. The Radium Warm Springs is a popular stop for boaters, as well as a destination for hikers and non-boating campers. Due to the site's popularity and high level of use, it is difficult to manage, and the additional strain of walk-in campers has potentially impacted the experience of floatboaters. The dispersed camping that occurs above and near the Warm Springs has caused significant resource damage in the immediate area, such as numerous, large dispersed campsites and fire pits, loss of surface vegetation and compacted soils, trees damaged by fire and firewood harvest, and sanitation issues. The site is also littered with broken glass, cigarette butts, abandoned clothing and other personal items, and unburnable trash deposited in fire pits.

A Union Pacific Railroad (UPR) access road, which was the old Eagle County Road 11 alignment, extends ½ mile from just west of the Yarmony Bridge and RMZ 4's Yarmony Jeep Trail. The UPR access road runs southwest within the UPR Right of Way, adjacent to the north side of the railroad track, which bisects the access road and river. At its end the access road is blocked by large boulders that prevent vehicle access beyond that point. Continuing southward, the remaining 0.7 mile of old roadbed has been designated for non-motorized multiple-use modes of travel including foot, horse and bicycle use. It connects to modern-day Eagle County Road 11 near State Bridge, where it is again blocked by large boulders. Currently, dispersed car camping and parking occurs along the UPR access road. Visitors commonly trespass across the railroad tracks to access additional dispersed camping sites and fishing opportunity along the river, creating a Railroad trespass and public safety issue.

A public route designated as open to motorized vehicles passes through the State Bridge Recreation Site and leads to Piney Peak. A short spur road connects off of this to a site commonly used for dispersed

camping and fishing access at the confluence of Piney Creek and the Colorado River. Like other dispersed campsites along the river, this site is subject to frequent "camp grabbing" and appears unavailable for several days at a time. This site also has litter and sanitation issues. Until recently, State Bridge Recreation Site was owned by Eagle County Open Space (ECOS), and cooperatively managed by ECOS and BLM. Fees previously collected at State Bridge were imposed by ECOS. In December 2018 this property was transferred to the BLM through a purchase under the Land and Water Conservation Fund.

RMZ 4:

Yarmony Jeep Trail, is currently managed for extreme Jeeping and has no developed recreation sites. Due to the topography and limited area, the 2015 KFO ROD/RMP identified RMZ 4 for closure to overnight camping throughout the entire zone. The Yarmony Jeep Trail, now primarily known by its users as the Trough Trail, runs within a drainage that provides technical and extreme Jeep Crawling and connection to a designated primitive road on the upper bench to the east. Another connecting trail that was not initially inventoried, known as Trough Your Rocker, runs west up another drainage to a high point on the upper ridge. Currently this is an up-and-back trail.

RMZ 5:

Gore Canyon Ranch is located just downstream from Pumphouse. It is managed for wildlife viewing, hiking and fishing. An undesignated primitive road, as described earlier, connects the Argentine Trail to the Pumphouse Recreation Site and is used by hikers and walk-in anglers. This primitive road connects to a semi-primitive road on Colorado Parks and Wildlife (CPW) managed land, along the shared BLM/CPW boundary. The semi-primitive road has a gate that prevents motorized travel northward onto BLM-administered lands. The semi-primitive boundary road is open to motorized vehicle use for ½ mile from its connection with Grand County Road 1 (Trough Road) and is used for parking and accessing this RMZ. RMZ 5 has no developed recreation sites and was identified for closure to overnight camping in the ROD/RMP.

RMP Direction Common to all Zones:

The 2015 KFO ROD/RMP designates the Upper Colorado River SRMA within the KFO as a "special area" for the purpose of initiating a permit system for private users, to achieve zone objectives and setting prescriptions. The implementation of a permit system for private users would benefit overall management of the SRMA by providing a means to collect data on private use of the river, as well as protecting the Resource Setting Characteristics (RSCs), and lead to a more comprehensive understanding and management of use patterns along the river corridor.

This EA has been prepared to present and analyze a range of potential management strategies for BLM-administered lands within the Upper Colorado River SRMA within the KFO. An EA is a public document that provides a tool for decision-making by describing reasonable alternatives, considering their possible effects, and disclosing to the public what the BLM is considering. Where necessary, additional site-specific environmental analyses will be prepared for these project plans prior to implementation of individual development projects, such as parking areas and boat ramps, in order to comply fully with the requirements of the National Environmental Policy Act (NEPA).

1.3. Purpose and Need for Action

The Upper Colorado River SRMA is very popular, hosting over 95,000 visitors each year. These numbers are collected from commercial outfitters' use reports and Recreation Use Permits collected at Pumphouse, Radium, and State Bridge Recreation sites (Tables 1.2-1 and 1.2-2).

Table 1.2-1 Number of Private and Commercial User Days on the Upper Colorado River for the years 2000 – 2010

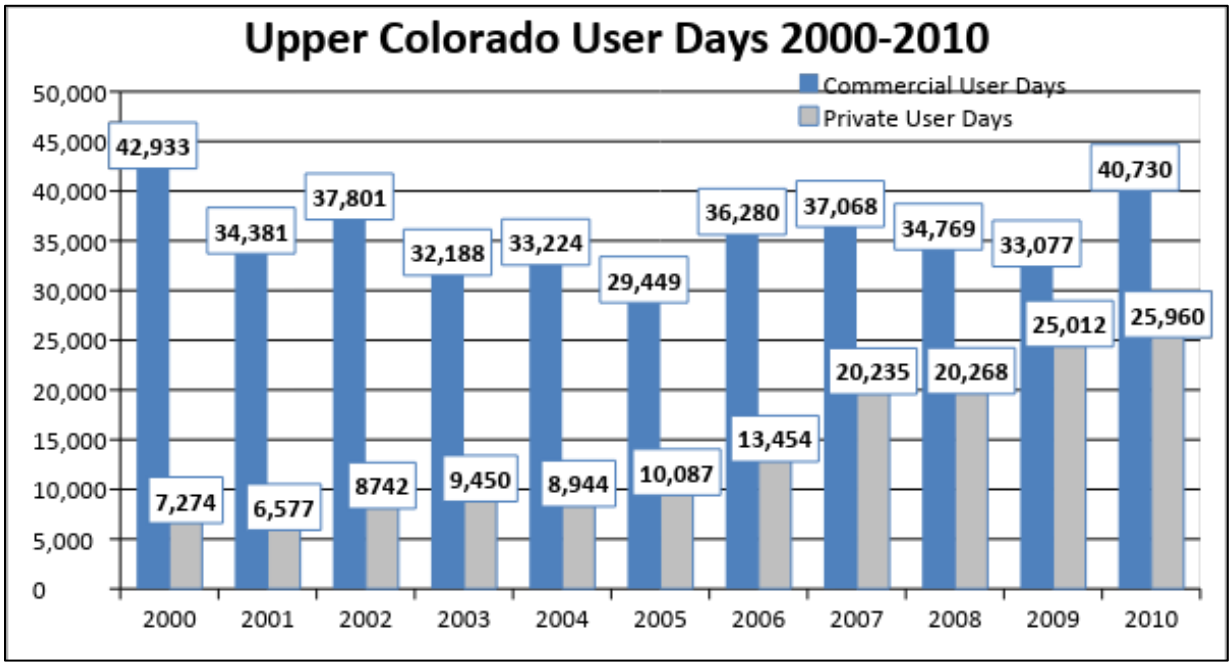
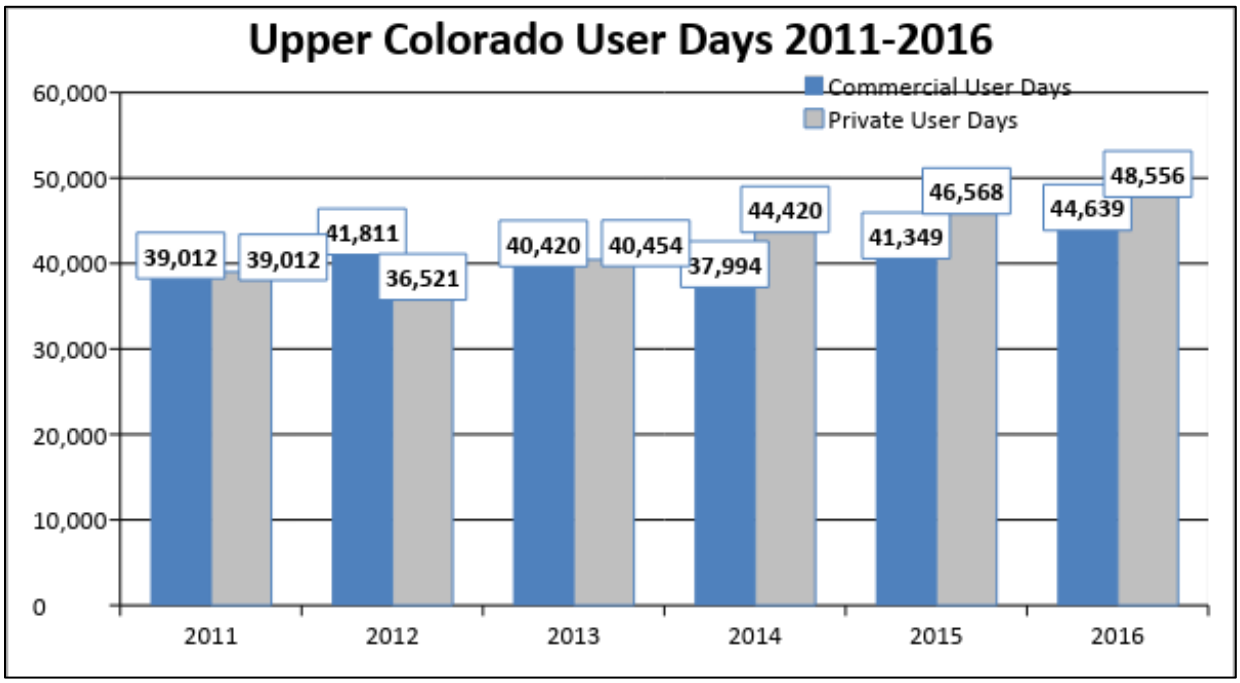


Table 1.2-2 Number of Private and Commercial User Days on the Upper Colorado River for the years 2011 - 2016



The BLM is currently managing this area without a long-term, comprehensive plan in place to guide the area's operations and development. The purpose of the proposed action is to establish a framework that would determine how recreation opportunities would be provided and managed within the Upper Colorado River SRMA. The goals of this effort are to develop an all-inclusive, site-specific RAMP that would outline and describe appropriate recreation development, level of use, allowable activities and associated management within the SRMA.

There is a need to provide resource protection while increasing site accessibility, safety and available amenities, and site environmental education/interpretation in a managed, natural environment to provide for high-quality recreation experiences. The BLM's Recreation and Visitor Services policy recommends that the local BLM offices develop RAMPs that address implementation-level management, administration, information and monitoring actions.

1.4. Decision to be Made

Based on the analysis contained in this EA, the BLM will decide which of the proposed alternatives to approve, and under what terms and conditions. Under the NEPA, the BLM must determine if there are any significant environmental impacts associated with the Proposed Action warranting further analysis in an Environmental Impact Statement (EIS). The Kremmling Field Manager is the responsible officer who will decide one of the following:

- To approve the proposed action or alternative;
- To analyze the effects of the proposed action in an EIS;
- To modify the proposed action or alternative; or
- To select the no action alternative.

1.5. Conformance with the Land Use Plan

The proposed action is subject to and is in conformance (43 CFR 1610.5) with the following land use plan:

Land Use Plan: Kremmling Record of Decision and Approved Resource Management Plan (ROD/RMP), as amended by the Greater Sage-grouse EIS

Date Approved: June 19, 2015, amended September 15, 2016

Decision Language: (2.2.3 Recreation and Visitor Services, ARMP/ROD p.44)

"Goal

- Produce a diversity of quality recreational opportunities that support outdoor-oriented lifestyles and add to participants' quality of life while, at the same time, contributing to the local economies."

"Objectives

- Resource Protection – Increase awareness, understanding, and a sense of stewardship in recreational activity participants so that their conduct safeguards cultural and natural resources as defined by Standards for Public Land Health and Guidelines for Livestock Grazing Management or area-specific outcomes (such as in relation to ACECs, WSRs, etc.).

- Visitor Health and Safety – Ensure that visitors are not exposed to unhealthy or unsafe human-created conditions (defined by a repeat incident in the same year, of the same type, in the same location, due to the same cause).

- Use/User Conflict – Achieve a minimum level of conflict between recreation participants in order to: 1) allow other resources and programs to achieve their RMP objectives; 2) curb illegal trespass and property damage; and 3) maintain a diversity of recreational activity participation.

- Community Growth Area – Increase collaboration with community partners in order to maintain appropriate activity-based recreational opportunities in community growth areas (BLM-managed public lands adjacent to, between, and surrounding communities; also referred to as WUI areas)."

1.6 Related Handbooks and Policies

The following handbooks and policies provide important background information for producing this draft plan:

- This RAMP incorporates the H-8320-1 Planning for Recreation and Visitor Services (R&VS) handbook (8/22/2014), which supports policies in the BLM Manual 8320 Planning for R&VS to assist in the planning and management of recreation and visitor services on public lands and related waters. Identified during the Land Use Planning process, recreation management areas, objectives, and allowable uses for those areas would guide subsequent implementation planning documents. During the implementation plan, this RAMP, planners identify particular recreation

setting characteristics to assist visitors with receiving benefits expected from a recreation activity.

- The 2014 BLM Recreation Strategy for Connecting with Communities provides direction to help communities produce greater socioeconomic health and deliver outstanding recreation experiences to visitors while sustaining the distinctive character of public recreation settings through collaboration with community networks of service providers.
- The BLM's National Environmental Policy Act Handbook (H-1790-1, 01/30/2008) is to help us comply with the NEPA, the Council on Environmental Quality's (CEQ) NEPA regulations (40 CFR Parts 1500–1508) and the Department of the Interior NEPA manual. "We" (BLM) have written it for use by "you," the reader involved in the NEPA process.
- The BLM's Recreation Permit and Fees Administration Handbook (H2930-1, 11/17/2014) provides guidance for recreation use of the public lands and related waters through the issuance of special recreation permits and recreation use permits. The BLM's authority to issue permits is described in the Federal Land Policy and Management Act of 1976 and 43 Code of Federal Regulations (CFR) 2930. The authority to collect and retain recreation fees is specified in the Federal Lands Recreation Enhancement Act (FLREA) of 2004.

1.7 Relevant Statutes and Authorities

This section is a summary of the relevant statutes and authorities that apply to this effort. Additional statutes and Executive Orders that guide the BLM are available at:

- Federal Land Policy and Management Act (FLPMA) 1976 – Defines BLM's organization and provides the basic policy guidance for BLM's management of public lands.
- National Environmental Policy Act (NEPA) 1969 – Requires the preparation of EAs or EISs on federal actions. These documents describe the environmental effects of these actions and determine whether the actions have a significant effect on the human environment.
- Endangered Species Act (ESA) 1973 – Directs Federal agencies to ensure their actions do not jeopardize threatened and endangered species.
- Clean Air Act (CAA) 1990 – Provides the principal framework for national, state, and local efforts to protect air quality.
- Archaeological Resources Protection Act (ARPA) 1979 – Protects archeological resources and sites on federally-administered lands. Imposes criminal and civil penalties for removing archaeological items from federal lands without a permit.
- Clean Water Act (CWA) 1987 – Establishes objectives to restore and maintain the chemical, physical, and biological integrity of the nation's water.
- Federal Lands Recreation Enhancement Act (FLREA) 2004 – Establishes authority to charge and collect fees for services and amenities at developed recreation sites and for issuing a special recreation permit.

2. ALTERNATIVES

2.1. Alternatives Analyzed in Detail

The expected outcome of this effort is a comprehensive RAMP that would outline and describe appropriate recreational development locations, allowable activities, and associated management in the Upper Colorado River SRMA within KFO for the next ten to 15 years. Proposed Actions would provide facilities and infrastructure that cater to existing visitors and expand camping and non-motorized day-use opportunities while minimizing environmental resource damage.

All proposed developments would be subject to funds availability. Increasing site utilization through alterations, modifications, or expansion would meet the needs of present and expected future visitor demand. This chapter describes overall management goals and objectives and describes each of the alternatives.

2.1.1. Summary of Alternatives

Three alternatives were developed in response to the purpose and need. These alternatives include the No Action Alternative (Alternative A) and two action alternatives (Alternatives B and C). Each alternative described in this section and analyzed in this EA represents a different strategy for addressing the issues outlined in EA Section 1.5.1. The alternatives were developed to reflect that emphasis on one activity or theme would result in fewer resources available for others. Through analysis of the alternatives, the BLM will determine the best combination of actions that can be taken, given the resources available.

Alternative A (No Action):

Under this alternative, none of the components of Alternative B or C would occur. The Upper Colorado River management would remain as it is currently.

Permits – A new permit system would not be developed for day use or overnight use. The current permit system for parking passes and camping in developed campgrounds would remain unchanged.

Campground Expansion – Pumphouse Campground would not be expanded with campsites for campers and RVs. The current campground layout, not designed for use by large vehicles, would remain unchanged.

Designated River Campsites – Dispersed campsites along the Upper Colorado River would continue to be identified with site markers, but they would not be designated, and camping would not be limited to those sites. Visitors would continue to set up camps days ahead of their planned use in order to "reserve" their preferred site.

Travel Management – The Trough Your Rocker, its return loop, and the Argentine Connector Trail would not be designated. The old Trough Road alignment would remain open.

Alternative B:

Permits – Camping permits would be required for floatboaters at designated primitive campsites within ¼ mile of the river in RMZ 3. The river campsites would be available for reservation through

www.recreation.gov. Campsites would have group size limitations that would be determined based on the size of the area. The designated primitive campsite at the mouth of Piney Creek would be excluded from the camping permit requirement. It would remain available to everyone on a first come, first served basis.

Campground Expansion – The Pumphouse Campground would be expanded to include a separate area for RVs and Campers. The expansion area (Appendix A-Figure 2) would encompass approximately three acres. The area would contain an unspecified number of pull-through campsites, with water and electrical hook-ups at each site and a two-vault toilet. The water and electric line would run off of the existing lines and be routed under the parking area for the group campsites. The access to the expansion area would be through the existing group campsite access road.

Designated River Campsites – Designate 25 primitive campsites along the river in RMZ 3 (Appendix A-Figures 3, 4, and 5). Camping in RMZs 2 and 5 would not be allowed within ¼ mile of the river. The designated sites would not include any improvements, such as picnic tables or metal fire rings. Camping would only be allowed at these designated sites.

Travel Management – Designate the Trough Your Rocker Trail as open to motorized use and develop a return route from the end of the trail to the main road traversing RMZ 4 (Appendix A-Figure 6). The new route would be approximately .32 miles and would accommodate the passage of high clearance 4-wheel drive vehicles. The Trough Your Rocker Trail was identified in the travel planning for the 2015 Travel Management Plan but was not designated as a motorized route. It is approximately .26 miles, travels through a natural drainage and is heavily used by the local jeep clubs.

Develop a connector trail between the Pumphouse Recreation Area and the Argentine Trail along an existing two-track route in RMZ 5 (Appendix A-Figure 7). Work would include converting approximately 1.04 miles of an existing two-track route into a single-track hiking trail. This would be accomplished by using hand tools to scarify and re-seed part of the old route. This route was closed in the 2015 Travel Management Plan.

Close the remaining .50 mile of the old Trough Road alignment, starting at Cable Rapid, to motorized public use (Appendix A-Figure 8). An access gate would be installed to allow the UPR access to their junction boxes. A portion of this route (.70 miles) was closed to motorized vehicles starting across from the mouth of Piney Creek in the 2015 Travel Management Plan.

Alternative C (Proposed Action):

Permits – Day Use Permits would be unlimited, self-issuing, and required for all users, including hikers, wade fishermen, floatboaters, warm spring users, etc., in RMZ 2, 3, and 5. Camping Permits would be required for all users at designated primitive sites within ¼ mile of the river in RMZ 3. Camping would not be allowed within ¼ mile of the river in RMZs 2 and 5. The designated river campsites would be available for reservation through *www.recreation.gov*. Group size limitations for each campsite would be determined based on the size of the area. Permits would be required for all visitors to RMZs 2, 3, and 5 during the peak use season, from April 1 to October 31 annually. The dispersed campsite at the mouth of Piney Creek would be excluded from the Camping Permit. It would be available to everyone on a first come first serve basis, but users would be required to obtain Day Use Permits.

Campground Expansion – Same as Alternative B.

Designated River Campsites – Same as Alternative B.

Travel Management – Same as Alternative B.

Table 2.3-1 Side-by-side Comparison of Alternatives

	Alternative A (No Action)	Alternative B	Alternative C (Proposed Action)
Permits	The existing Recreation Use Permit program for camping and use of developed recreation sites at Pumphouse, Radium, and State Bridge would continue.	Camping Permits would be required for overnight floatboaters, with camping restricted to designated primitive sites within ¼ mile of the river in RMZ 3. The river campsites would be available for reservation through *www.recreation.gov*. Camping in RMZ 2 and 5 within a ¼ mile of the river would not be allowed. The designated primitive campsite at the mouth of Piney Creek would not require camping permits. The existing Recreation Use Permits would continue to apply for use of developed facilities at Pumphouse, Radium, and State Bridge.	Day Use Permits would be unlimited, self-issuing, and required for all users, including hikers, wade fishermen, floatboaters, Warm Spring users, etc., in RMZ 2, 3, and 5. Camping Permits would be required, with camping limited to designated primitive sites within ¼ mile of the river in RMZ 3. Camping in RMZ 2 and 5 within ¼ mile of the river would not be allowed. Permits would be required for all visitors from April 1 to October 31 annually. The designated primitive campsite at the mouth of Piney Creek would not require a camping permit, but would require users to obtain a Day Use Permit. Recreation Use Permits would continue for developed campsites at Pumphouse and Radium Campgrounds, but the current per vehicle per day permit system would be replaced by the new Camping and Day Use Permits for all users.
Campground Expansion	The Pumphouse Campground would not be expanded to create a separate area for RVs/Campers.	The Pumphouse Campground would be expanded to include a separate area for RVs/Campers.	Same as Alternative B.
Designated River Campsites	Campsites along the river would not be designated. Dispersed camping would be allowed anywhere in any RMZ.	Designate 25 campsites along the Colorado river in RMZ 3. Camping would only be allowed at these designated sites, and prohibited within ¼ mile of the Colorado river in all other RMZs.	Same as Alternative B.

Travel Management	The current condition would continue, and the following actions would not occur: Designation of Trough Your Rocker Trail Development and designation of the return route for Trough Your Rocker Designation of Argentine Connector Trail Closure of old Trough Road Alignment.	Designate the Trough Your Rocker Trail as a route open to motorized use and develop a return route from the end of the Trough Your Rocker Trail to the access route in RMZ 4. Develop a connector trail between the Pumphouse Recreation Area and the Argentine Trail. Close the remaining old Trough Road alignment to State Bridge to motorized use by the public.	Same as Alternative B

2.2. Design Features Common to All Action Alternatives

1. Designated campsites would be located in a sustainable area. Access to the campsite would have adequate drainage, reducing rutting and erosion that would transport sediments to the river.

2. If a total maximum daily load (TMDL) is recommended within the SRMA to improve water quality, or if monitoring indicates a downward trend in water quality, then further review of potential recreational impacts to water quality would be completed. If needed, additional management actions may be proposed.

3. If the Pumphouse Recreation Site's water system is going to be expanded (Alternatives B and C), then an extended pump test would be completed to determine if the well's yield would be exceeded prior to moving forward with any construction.

4. BLM River Rangers and Recreation staff would educate users not to remove standing trees from the SRMA for firewood, and permit language should reflect this.

5. Signs and other educational materials would be posted at recreation areas to inform visitors of the presence of bald eagles and other sensitive wildlife species, with messages about protecting and avoiding disturbance to wildlife.

6. Construction of the new return jeep trail from the Trough Your Rocker trail would pass through and/or along the edge of pinyon/juniper stands, and avoid passing through and fragmenting adjacent sagebrush habitat.

7. Campsites would be placed to avoid impacts to special status plant and wildlife species, and migratory birds.

8. Recreationists would be encouraged to clean their gear when moving from one recreational area to another to decrease the potential for introducing new invasive species infestations.

9. Standard Operating Procedures for prevention of invasive weed species related to heavy equipment use and construction activities would be followed.

10. To mitigate the effects on old growth stands, camping and day-use permits would include language extolling the benefits of retaining dead limbs, portions of stems and standing trees. Visitors should be encouraged to bring their own firewood.

2.3. Conditions of Approval to Mitigate Impacts to Cultural and Paleontological Resources Required by BLM Colorado

1. The BLM is responsible for informing all persons who are associated with the project that they would be subject to prosecution for knowingly disturbing archaeological sites or for collecting artifacts.

2. If any archaeological materials are discovered as a result of operations under this authorization, activity in the vicinity of the discovery would cease, and the BLM KFO Archaeologist would be notified immediately. Work may not resume at that location until approved by the Authorized Officer (AO). The BLM would make every effort to protect the site from further impacts including looting, erosion, or other human or natural damage until the BLM determines a treatment approach, and the treatment is completed. Unless previously determined in treatment plans or agreements, BLM would evaluate the cultural resources and, in consultation with the State Historic Preservation Office (SHPO), select the appropriate mitigation option within 48 hours of the discovery. The BLM would implement the mitigation in a timely manner. The process would be fully documented in reports, site forms, maps, drawings, and photographs. The BLM would forward documentation to the SHPO for review and concurrence.

3. Pursuant to 43 CFR 10.4(g), the BLM must notify the AO, by telephone and written confirmation, immediately upon the discovery of human remains, funerary items, sacred objects, or objects of cultural patrimony. Further, pursuant to 43 CFR 10.4(c) and (d), the operator must stop activities in the vicinity of the discovery and protect it for 30 days or until notified to proceed by the AO.

Paleontological Conditions of Approval for construction projects:

4. The BLM is responsible for informing all persons who are associated with the project operations that they would be subject to prosecution for disturbing or collecting vertebrate or other scientifically-important fossils, collecting large amounts of petrified wood (over 25lbs./day, up to 250lbs./year), or collecting fossils for commercial purposes on public lands.

5. If any paleontological resources are discovered as a result of operations under this authorization, the BLM must stop work immediately at that site, immediately contact the BLM Paleontology Coordinator, and make every effort to protect the site from further impacts, including looting, erosion, or other human or natural damage. Work may not resume at that location until approved by the AO. The BLM or designated paleontologist would evaluate the discovery and take action to protect or remove the resource within 10 working days. Within 10 days, the BLM would be allowed to continue construction through the site, or would be given the choice of either (a) following the Paleontology Coordinator's instructions for stabilizing the fossil resource in place and avoiding further disturbance to the fossil resource, or (b) following the Paleontology

Coordinator's instructions for mitigating impacts to the fossil resource prior to continuing construction through the project area.

Paleontological Conditions of Approval for non-construction projects (e.g., habitat improvements):

6. The BLM is responsible for informing all persons who are associated with project operations that they would be subject to prosecution for disturbing or collecting vertebrate or other scientifically-important fossils, collecting large amounts of petrified wood (over 25 lbs./day, up to 250 lbs./year), or collecting fossils for commercial purposes on public lands. If any paleontological resources are discovered as a result of operations under this authorization, the BLM project leader must immediately contact the appropriate BLM representative.

3. PUBLIC INVOLVEMENT

3.1. Scoping

NEPA regulations (40 CFR 1500-1508) require that the BLM use a scoping process to identify potential significant issues in preparation for impact analysis. The principal goals of scoping are to identify issues, concerns, and potential impacts that require detailed analysis. Scoping is both an internal and external process.

Internal scoping was initiated when the project was presented to the Kremmling Field Office (KFO) interdisciplinary team on 07/31/2017. No issues were identified at that time.

External scoping was conducted by posting this project on the BLM on-line National Environmental Policy Act (NEPA) register on 04/14/2017. A press release was sent out to the local papers, posted on the BLM website, and posted on Mountain Buzz, a popular river recreation website. Three public meetings were held at the following locations:

April 18 – Silverthorne Summit County Library North Branch 651 Center Circle	April 20 – Kremmling CSU Extension Hall 210 11th Street	April 21 – Denver REI Flagship Store 1416 Platte St

The BLM received seven scoping letters. Scoping letters were received from the public and outfitters. Issues identified during external scoping included: Overcrowding/user conflicts, unregulated camping, and increased user fees. There were no scoping letters received from government entities or non-governmental interest groups.

Issue: Overcrowding/user conflicts: Limiting use based on a carrying capacity study is beyond the scope of this document. This office has not completed a carrying capacity study, so limiting use would not be based on recent data collection or science. With any river, user conflicts exist, especially on unregulated rivers. The implementation of a permit system would allow the BLM to adjust what types of use are allowed and how that use occurs on the river. Individuals seeking an unrestricted river experience would most likely seek opportunities elsewhere.

Issue: Unregulated River Camping: Designating campsites and implementing a permitted reservation system would allow this office to add stipulations that regulate overnight camping and assures that users would be guaranteed a site for the night.

Issue: Increased Use Fees: Permit fees are beyond the scope of this document and would be addressed in a future business plan before implementation of a permit system.

4. ISSUES

The CEQ Regulations state that NEPA documents "must concentrate on the issues that are truly significant to the action in question, rather than amassing needless detail" (40 CFR 1500.1(b)). While many issues may arise during scoping, not all of the issues raised warrant analysis in an EA. Issues will be analyzed if: 1) an analysis of the issue is necessary to make a reasoned choice between alternatives, or 2) if the issue is associated with a significant direct, indirect, or cumulative impact, or where analysis is necessary to determine the significance of the impacts. The following sections list the resources considered and the determination as to whether they require additional analysis.

4.1. Issues Analyzed

The following issues were identified during internal scoping as potential issues of concern for the Proposed Action. These issues are addressed in this EA.

- **Soil Resources**: Would recreational activities cause soil damage, soil compaction and soil erosion?
- **Surface and Ground Water Quality**: Would vegetation removal or trampling associated with recreational activities cause increased sediment-loading into the stream? Would the amount of human and animal waste from campers and their pets increase the potential impacts to both surface and ground water quality?
- **Wetlands and Riparian Zones**: Bank stability, wildlife and aquatic habitat are dependent on a proper functioning riparian zone. Would visitor uses, from camping and hiking, damage or remove vegetation or introduce invasive species that impact these areas?
- **Visual Resources**: Would the Pumphouse Campground expansion impact visual resources by creating a noticeable change within the viewshed?
- **Forest Management and Forest/Woodland Vegetation:** Physical injury to forest and woodland vegetation contributes to increased vulnerability to drought, and insect/disease attack. Would the alternatives lead to impacts to structural and ecological complexity of stands exhibiting old growth characteristics?
- **Recreation:** Would the overnight and day use permit system cause hardships on certain populations within the recreating public due to the requirement to obtain advance reservations for overnight use?
- **Access and Transportation**: Would the closure of the old Trough Road alignment potentially impact access and transportation by eliminating vehicle access to a dispersed campsite?

- **Wild and Scenic Rivers**: Would unregulated use of the Upper Colorado River impact the Outstanding Remarkable Values (ORVs) that were documented in the Eligibility Determination by causing harm to the scenic quality, fishing or boating opportunity, wildlife habitat, geologic features, or historic values within the river corridor?

4.2. Issues Considered but not Analyzed

- **Native American Religious Concerns**: Tribal consultation was initiated in October 2016. No Native American religious concerns are known in the area, and none have been identified by the tribes. Should recommended inventories or future consultations with Tribal authorities reveal the existence of such sensitive properties, appropriate mitigation and/or protection measures may be undertaken. Tribes would be notified of any implementation-level developments that may occur subsequent to completion of this document.

- **Cultural Resources**: A Class III cultural resource inventory report #CR-18-14 was completed. The project has been determined to have no effect on cultural resources. There would be no historic properties affected.

- **Paleontological Resources**: Geologic formations sensitive for fossil resources are present, but would not be impacted by the proposed project. BLM standard "discovery" stipulation is part of the environmental assessment and is to be attached to any authorization allowing any project to proceed.

- **Social and Economic Conditions**: The application of a user permit system, designation of campsites along the Upper Colorado River (most of which already exist), new road and trail connections or closures would not be expected to significantly change the amount or type of recreational opportunities within the SRMA. While the number of RV campsites to be added to Pumphouse Campground is not known, it would not be expected to substantially increase the amount of camping available in the area. There would not be any substantial changes to local social or economic conditions.

- **Environmental Justice**: According to the most recent Census Bureau statistics (2010) and guidelines provided in WO-IM-2002-164, there are no minority or low income populations within the KFO.

- **Aquatic Wildlife:** The northern leopard frog, bluehead sucker (two sensitive species), and important sportfish (rainbow trout, brown trout, and mountain whitefish) are all known to occupy, or have potential habitat within the project area. However, since none of the alternatives is expected to significantly change the amount of visitation or recreational activities available within the project area, the difference in impacts among alternatives is negligible. CPW has imposed special regulations to support its "Gold Medal" fisheries designation within the project area. Implementation of the No Action or any of the action alternatives would be expected have minimal impacts to aquatic wildlife species.

- **Invasive, Non-Native Species**: Populations of common mullein (*Verbascum thapsus*), houndstongue (*Cynoglossum officinale*), musk thistle (*Carduus nutans*), bull thistle (*Cirsium vulgare*), field bindweed (*Convolvulus arvensis*), Scotch thistle (*Onopordum acanthium*), cheatgrass (*Bromus tectorum*), and Canada thistle (*Cirsium arvense*) already occur in varying

densities within the project area. Although the limitation of riverside camping to designated sites could have a slight benefit to limiting spread of noxious weeds, the difference in impacts among alternatives would only be slight. Invasive weed populations are dynamic. Future additional invasive species may be identified within the area covered by this plan. Appropriate management response would occur if or when they are found.

- **Migratory Birds:** The following species are known to inhabit or have potential habitat within the project area: golden eagle, black swift, long-billed curlew, Brewer's sparrow, Lewis' woodpecker, long-eared owl, olive-sided flycatcher, pinyon jay, veery, Virginia's warbler, and willow flycatcher. Neither the No Action, nor any of the action alternatives is expected to differ in impacts to migratory birds, since the amount and types of recreational opportunity is not expected to differ by alternative. Impacts from recreational use of the river to selected birds of conservation concern would be mostly small-scale and localized. These impacts have been occurring in the river corridor for years, and it's likely that migratory bird species have altered nesting activity adjacent to the river because of this. Overall, reducing the "footprint" of overnight use along the river by limiting camping to designated campsites would prove beneficial to bird habitat.

- **Terrestrial Wildlife**: The project area includes crucial winter range for deer, elk and Rocky Mountain bighorn sheep. Since neither the No Action nor any of the action alternatives is expected to change the amount or type of recreational opportunities available within the SRMA, there is not expected to be a significant difference in impacts to terrestrial wildlife among alternatives. Additionally, impacts to terrestrial wildlife would be expected to be slight under all alternatives, since the majority of recreation use does not take place during the winter season when big game animals within their crucial winter range are more subject to stress and disturbance from recreational use.

- **Special Status Animal Species (With Potential Habitat within the Kremmling Field Office)**: The following special status species known to occur or have potential habitat within the project area: Sage-grouse (one-mile lek buffer intersects project boundary, but away from the river corridor), Canada lynx (portion of State Bridge Linkage Unit within project area), Columbian sharp-tailed grouse (may use willow/birch habitat in winter), bald eagle (nests along river), golden eagle (nests on cliff ledges above river), northern goshawk (may use river corridor for foraging habitat), peregrine falcon (nests on cliff ledges high above river), yellow-billed cuckoo (occasional visitor, not known to breed in Grand County, but potential nesting habitat exists), Brewer's sparrow (potential habitat) and black swift (potential nesting habitat, but nesting has not been documented).

  Since neither the No Action nor any of the action alternatives is expected to change the amount or type of recreational opportunities available within the SRMA, there is not expected to be a significant difference in impacts to special status animal species among any of the alternatives.

  Trail use under the Proposed Action has slight potential to affect nesting sage-grouse. However, sage-grouse are not known to occupy the area of the proposed Argentine connector trail. Additionally, the trail already exists as a closed two-track route that is casually used by visitors at Pumphouse Recreation Area. The highest potential for recreational disturbance to any of these

species is for impacts to nesting bald eagles from recreational boaters landing and congregating beneath nesting or roosting trees. The design feature for posting educational signs/materials about bald eagles and other sensitive species would help protect these birds from disturbance due to recreational activities. Brewer's sparrow habitat could be impacted by noise and human presence where new motorized routes pass through sagebrush stands. The design feature for avoiding sagebrush stands would minimize this impact.

The remaining species are expected not to be impacted by any of the action alternatives for a variety of reasons: nest sites on cliff walls are inaccessible to most recreational activities and would not be impacted; recreational use along the river in winter is minimal, and unlikely to impact winter seasonal use by wildlife; the Proposed Action is not expected to change habitat components in lynx linkages and therefore not affect lynx; or the remote potential for the presence of a species within the project area.

- **Special Status Plant Species**: The following special status plant species (sensitive, threatened or endangered) are known to occur or have potential habitat within the project area: Harrington's beardtongue, Ute Ladies'-tresses, fragile rockbrake. However, since neither the No Action nor any of the action alternatives is expected to change the amount or type of recreational opportunities available within the SRMA, there is not expected to be a significant difference in impacts to special status animal species between any of the alternatives. These species are also unlikely to be impacted by recreational activities for the following reasons: Harrington's beardtongue occurs within sagebrush communities, which typically occur away from where most recreational activities occur; Ute Ladies'-tresses are not known to occur within Grand or Eagle Counties. Limitation of camping to designated campsites would have a slight beneficial impact to potential habitat for Ute Ladies'-tresses. Fragile rockbrake is unknown to occur within the project area, but if it is present, its habitat of moist, steep areas would preclude its being impacted by river recreation activities.

- **Vegetation**: The requirement of permits for recreational activities throughout the RMZs would not affect the vegetative community due to these activities taking place on already developed or disturbed locations. The additional three-acre disturbance in the Pumphouse campground would be seeded to mitigate any affects from the disturbance thereby removing any impacts to the native vegetation to perform its ecological role.

- **Prime and Unique Farmlands**: There are no prime and unique farmlands within the project area.

- **Wilderness**: There are no designated Wilderness Areas or Wilderness Study Areas located near the Proposed Action.

- **Lands with Wilderness Characteristics:** The proposed action would not have an effect on lands with wilderness characteristics.

- **Livestock Grazing:** Livestock grazing is permitted outside the project area and would not be affected by the proposed action nor will it be analyzed further.

- **Wild Horses:** Wild horses do not occur in the Kremmling Field Office and will not be analyzed further.

- **Air Quality**: Air quality within the planning area is considered to be meeting the National Ambient Standards. Air quality impacts within the area are primarily associated with the traffic on Trough Road, which is outside the scope of this plan.

- **Geology and Minerals**: No geologic features or mineral resources would be affected by the Proposed Action or alternatives. The locatable and salable mineral estate on BLM-managed lands within the SRMA has been withdrawn under Public Land Order No. 7466, which expires in 2020. The lands remain open to leasable mineral entry and are subject to valid existing rights.

- **Floodplains, Hydrology, and Water Rights**: The alternatives would not affect the hydrology or water rights within or downstream of the SRMA. The functionality of the floodplain and the flood hazard of the SRMA are also outside of the scope of this document. The floodplain's soils and vegetation are discussed in the respective sections within Chapter 5 of this EA.

- **Areas of Critical Environmental Concern:**
  Approximately 81 acres (out of a total of 728 acres) of the Barger Gulch ACEC intersect with the recreation area. This ACEC was designated to preserve cultural resources. The intersected portion is .6 mile from the river corridor, across an unimproved road, and on a bench well above the river corridor used by recreationalists. Implementation of this plan is expected to have no impact to the ACEC.

- **Scenic Byways**: The Colorado River Headwaters National Scenic and Historic Byway passes through the project area. Although construction of new campsites would be visible during construction activities, the impact would be temporary and short term. Neither the No Action nor either of the action alternatives would have an effect on scenic byways.

- **Realty Authorizations**: There are realty actions authorized within the proposed plan area but the project would not affect those authorizations.

- **Fire Management**: The proposed Action and the No Action Alternative would have no effect to Fire Regime Condition Class and/or to the cost of wildland fire suppression.

- **Hazardous or Solid Wastes**: The Action and No Action Alternatives would not have a significant impact on hazardous or solid wastes.

5. Affected Environment, Environmental Consequences, and Cumulative Effects

5.1. General Setting & Access to the Project Area

The area of the proposed action encompasses approximately 19,982 acres of BLM-administered lands from Parshall on the north/east end; bisected by U.S. Hwy 40 and Grand County Road 1, which converts to Eagle County Road 11; to where the Piney River confluence occurs with the Colorado River in an area known as State Bridge at the south/west end (**Appendix A**-Figure 1). Elevation ranges from 6,300-8,500 feet with dominant vegetation communities of pinyon-juniper woodland and sagebrush.

5.2. Cumulative Effects Analysis Areas

The geographic extent of cumulative impacts is the 19,982-acre Upper Colorado River SRMA, and the life of the RAMP is expected to be 20 years for all resource analysis. As pertains to NEPA, cumulative effects are defined as "the effect that results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions." The scope of analysis for cumulative impacts is the Colorado River SRMA from eastern terminus approximately 4.5 miles west of Parshall to State Bridge.

Past Actions

A variety of past activities have incrementally impacted the SRMA on BLM, USFS, state, and private lands. Water diversions to the Front Range, such as the Moffat Collection System and Windy Gap Project have depleted the flow regime and reduced peak flows as well as the yearly average flows. This has affected sediment transport, recruitment of native vegetation, and the active channel over time. Diversions for irrigated hay meadows have also reduced peak flows, although much of that diverted water returns to the river. Exotic species have invaded the river corridor; primarily cheatgrass and multiple species of thistle. These species can out compete native vegetation and impact wildlife habitat as well as the proper functioning of wetlands and riparian areas. In narrow canyons, the construction of the railroad along the river corridor added large amounts of rocks and boulders to the river channel. The Class V rapids in Gore Canyon are an example of this. Road and bridge construction also modified the canyon environment, through construction activities such as cutting and filling, and increased human access to the river. BLM has constructed recreation facilities such as campgrounds that permanently removed native vegetation and increased visitor use.

Bighorn sheep were reintroduced by Colorado Parks and Wildlife in 2009, and pinyon-juniper removal has occurred in an attempt to benefit bighorn sheep as well as deer and elk. Pinyon-juniper and sagebrush have also been removed, primarily to benefit livestock by increasing forage in the form of grass species. From 1986 to 2014, over 100 individual vegetation treatments were done, treating approximately 6,236 acres.

River recreation has increased significantly over time. In the last ten years, recreation use has doubled based on KFO use data, which was obtained through commercial outfitters' post use reports and Recreation Use Permits issued within the UCRSRMA. Past mining activity occurred on a small scale as well as homesteading.

Present Actions

The primary activities within the river corridor at present are recreational uses such as rafting and kayaking, float fishing and bank fishing, hiking, camping, hunting, bird watching, mountain biking, and 4-wheel-drive use. The river supports both commercial outfitting and general public visitors.

BLM actively treats invasive plants within the river corridor to attempt to reduce or eliminate their spread. Habitat treatments are ongoing, with over 1,000 acres treated on CPW and federal lands. These activities are aimed at reducing the pinyon-juniper woodlands to improve shrub and grassland habitats for big game species. These treatments are also aimed at reducing fuels buildup to improve fire management operations. Prescribed burning, mechanical thinning, and hand thinning are the primary treatment methods.

Past water diversions mentioned above, both large scale for municipal water, and small-scale for agriculture, are ongoing.

Current grazing allotments total 4,273 acres (of 19,982 acres in the SRMA) in 13 allotments. Cattle are the main livestock on these allotments, although horse and sheep grazing also occurs. At present, all these allotments are meeting standards for upland and watershed health.

Currently, there is one active sand and gravel pit within the SRMA, and three active pits adjacent to the SRMA boundary.

Reasonably Foreseeable Future Actions

The Windy Gap and Moffat Firming (water diversion) Projects are expected to increase diversions from the SRMA river segments. Based on present trends, recreational use of the river may increase over time, unless use limits are imposed. Campground expansion at one developed site, to accommodate RV use, and designating river campsites along the river corridor, thus regulating unrestricted overnight camping, are expected if the Proposed Action is implemented.

Habitat treatments would also continue to reduce pinyon-juniper acreage within and adjacent to the river corridor, while increasing shrub and grassland habitats. More prescribed burns are expected to occur, and at larger scales than was accomplished under past prescribed fire treatments.

Weed treatments would also continue. Grazing in active allotments, occurring on approximately one-fifth of the total area of the SRMA, would continue under current regulations. Mineral estate on BLM-managed lands within the SRMA is under a withdrawal. Unless there are valid existing rights, no new claims would be permitted.

5.3. Soil Resources

Affected Environment

Soil information is from the Natural Resource Conservation Service's soil mapping for Grand and Eagle Counties, Colorado. The large SRMA includes several soil mapping units, but the general soil areas are summarized below.

SRMA Zone 1:

Cumulic Cryaquolls-Tine: Deep, nearly level to steep, poorly-drained and well-drained soils that formed in outwash and alluvium; on fans, terraces, and flood plains. This map unit occurs along the Colorado River, and is about 60% Cumulic Crayquolls. These poorly-drained soils formed in alluvium and alluvial outwash material on the flood plains. The upper loam horizons show evidence of a high water table- which generally occurs at depths of 10-24 inches during the growing season. The general soil map only shows this map unit in Zone 1, but it is the soil unit that supports the riparian habitat along the river corridor, within the floodplain, with level slope.

SRMA Zone 2:

Frisco-Peeler-Uinta: Deep, gentle slopes to very steep, well-drained soils that formed in glacial drift or in residuum and colluvium from metamorphic rock; on mountainsides, ridges, and fans. These soils are

generally higher elevation coniferous forest soils. The soils have a duff layer of needles and twigs that protect subsurfaces of sandy loam soils that may have a gravel component.

Rock outcrop-Dalquist-Stunner: Rock outcrop and deep, gently sloping to steep, well-drained soils that formed in alluvium and colluvium, on mountainsides, ridges, and toe slopes. This unit only occurs in the southwestern part of Grand County. It is generally about 40% rock outcrop along the Colorado River. It includes outcrops of granite, sandstone, shale, mudstones, and basalt. The soils in this map unit tend to have surface layers of very cobbly loams to very cobbly sandy clay loams.

SRMA Zone 3:

Rock outcrop-Dalquist-Stunner: see Zone 2

Jerry-Cochetopa-Forsey: Gently sloping to very steep, well-drained, deep soils: on alluvial fans, hills, valley sides, mountainsides, and ridges. This soil group is generally a mountain shrub site, and the soil units are a reflection of the underlying geology. Jerry soils, on alluvial fans and hills, formed in alluvium formed from sandstone and shale. The loam surfaces are underlain by channery clay loams. Cochetopa soils are also on alluvial fans and valley sides, and are on steep slopes. The alluvium formed from basalt, and surface loam textures are underlain by clay loam. Forsey soils are found on fans, mountainsides, and ridges. They formed in colluvium, alluvium, and residuum. Surface textures are cobbly loam, underlain by very cobbly clay loam to very cobbly sandy clay loam.

Forelle-Yamo-Almy: Gently sloping to steep, well-drained, deep soils; on fans, benches, toe slopes, and mountains. Forelle soils formed in alluvium from sedimentary rock. The surface soil are loams, with subsoils of clay loam. Yamo are on fans and toe slopes, formed in colluvium. The soils tend to be deep loams. Almy soils are on fans and uplands. They formed in alluvium derived from calcareous redbed sandstone and shale. Surface textures are loams with fine sandy loam to sandy clay loam subsoils. Vegetation is mountain shrubs and grasses with scattered conifers.

Earsman-Cushool-Rentsac: Moderately steep to very steep, well-drained and somewhat excessively-drained, shallow and moderately deep soils; on mountainsides, ridges, hills, and mesa side-slopes. Vegetation is primarily grasses, forbs, woody shrubs, pinyon, juniper, and small conifers.

SRMA Zone 4:

The drainage where the Yarmony Jeep Route is located is mapped as the Forelle-Brownsto Complex, 12-25% slopes. Generally the mapping unit is 50% Forelle, which formed in mixed alluvium derived dominantly from sedimentary rocks. The surface loams are underlain by a 24-inch-thick clay loam layer and then loams. The Brownsto soil formed in alluvium primarily derived from coarse textured, calcareous sandstone and basalt. The upper surface layers are gravelly sandy loam underlain by gravelly loam and very gravelly sandy loams.

The surrounding soils are mapped as Torriorthents-Camborthids-Rock outcrop complex (west and southwest of drainage) and Almy loam, 1-12% slopes to the east of the drainage.

Torriorthents formed in residuum and colluvium derived from sedimentary rock. The surface is generally stony, with fine sandy loams to clay loams. Soils overlie shale or sandstone, and are generally less than 24 inches deep. Camborthids also formed in residuum and colluvium, but are dominantly from

sandstone shale and basalt. Soil surfaces are clay loam or loams. This mapping unit generally has a sparse vegetative cover of grasses, forbs, pinyon, and Utah juniper.

Almy loams formed in alluvium derived from calcareous redbed sandstone and shale. Surface textures are loam with sandy loam subsurface soils. Calcareous layers occur with depth. Vegetation is generally native grasses and sagebrush.

SRMA Zone 5:

Zone 5 includes soils within the floodplain that are mapped as Cumulic Cryaquolls (see Zone 1). The soils south of the access road are mapped as Forelle loams, 3-15% slopes. Forelle loams are deep, well drained soils that formed in local alluvium of various sedimentary sources. They have loam surfaces underlain by sandy clay loams. The other main soil mapping unit is Dahlquist-Stunner very cobbly loam, 3-15% slopes. These are also deep soils, formed in alluvium and colluvium. Dahlquist soils occur on the side slopes and terrace positions, while Stunner soils are on side slopes and steeper fans. Dahlquist soils typically have very cobbly loam surfaces with very cobbly sandy clay loam to extremely cobbly loams with depth. The Stunner soil has a very cobbly loam surface underlain by clay loam to sandy clay loam. The lower part of the substratum is a deep highly calcareous loam.

The Kremmling RMP recognized that the SRMA "will continue to see increasing numbers of visitors, as well as some additions and changes in emphasis on types of recreation." (Chapter 4, Environmental Consequences, Soil Resources). Under all of the Alternatives, recreation users will continue to impact soil resources along the river corridor and the rest of the SRMA.

Environmental Consequences – Alternative A- No Action

The limited numbers of developed campsites at Pumphouse and Radium have resulted in user-created campsites in Zone 3. User-created sites increase the areal extent of compacted denuded soils and may be located in unsustainable, erosive sites. The number and extent can exceed the BLM's ability to mitigate or mange them. There are designated trails and routes in all the zones that are in need of maintenance to reduce erosion and improve soil conditions. Footpaths would become heavily compacted, especially in finer-textured soils.

Under the No Action Alternative, the current soil conditions due to visitor uses, such as decreased vegetative cover, increased soil erosion and/or compaction would expand as use expands from developed sites to adjacent areas.

Jeep clubs driving the user-created Yarmony Jeep Trail would continue to drive the route and create connecting routes. User-created routes can be located on terrain that is too steep, or highly erosive soils, without any drainage or design to lessen water erosion and help lessen negative soil impacts.

Hikers can use the two-track route to walk from Pumphouse to the Argentine Trail, and vehicles could continue to access portions of the old Trough Road for fishing and camping. The opportunity to reduce impacts to soil resources from these existing disturbances would be foregone.

Environmental Consequences – Alternative B

Under Alternative B, approximately three more acres would be developed as a campground to accommodate campers and RVs. Although these soils would no longer be undisturbed and productive,

they would meet the user demand and concentrate use in hardened, engineered sites rather than the user-created camp areas away from Pumphouse that are occurring.

Alternative B would also limit camping to only designated sites along the river in Zone 3, and not allow river camping in Zones 1, 2 and 5. These limitations would benefit soil resources in campsites by reducing user-created camp spots and limiting the size of the camps. Designated sites may still require mitigation measures to reduce erosion, but designated sites can be located in less erosive areas and are finite in number.

Designating the Trough Your Rocker trail and return loop would help reduce soil impacts from user-created routes and meet public demand for an extreme jeep route.

Closing the Old Trough Road to vehicle use would help reduce overall soil disturbance from recreationists, since only foot traffic would be routinely occurring on this road. Narrowing the connecting trail from Pumphouse to the Argentine Trail would also help reduce the amount of disturbed soils and would help improve overall trail drainage and condition, benefiting the soils in the area.

Environmental Consequences- Alternative C- Proposed Action

Environmental Consequences would be expected to be similar to those under Alternative B. Implementing a day use permit system with no fees and no number restrictions is unlikely to make a measurable difference in the number of users or the extent of soil impacts.

Mitigation Measures

None.

Cumulative Effects

Past and present uses within the SRMA have resulted in soil compaction and erosion in localized areas of high use, such as two-track roads and some campsites. Benches Campsite is an example of poor vegetative cover and soil compaction resulting in increased erosion through the campsite. The resulting gully carries sediment to the river. Motorized use on two-track roads during wet soil conditions has increased the width of road disturbance and the depth of ruts.

Past vegetative treatments generally treated small, gentle to moderately-sloping areas, and soil erosion tended to be minor. Within the Yarmony Prescribed Burn (Fall, 2009), areas of high-intensity fire had increased invasive plants and bare ground, increasing erosion during spring snow melt and summer rains of 2010. Avoiding fall burns and pretreating any invasive plants prior to vegetative treatments is helping reduce these types of consequences. The Radium Valley Habitat Improvements EA (DOI-BLM-LLCON02000-2015-2015-0004-EA) approves vegetative treatments within much of the SRMA. Those treatments are being monitored as they are implemented, to allow the BLM to use adaptive management, continuing to adjust the treatment units and design features to reduce soil impacts. Adjacent state and private lands are also being treated, which makes BLM adaptive management even more essential to protect soil resources.

Current uses and disturbances are expected to continue and potentially increase. As recreational use increases, there is greater pressure on campsites, rest areas, and recreation sites within the river corridor.

The site-specific areas of unacceptable soil impacts would be expected to increase and/or expand. Recreationists are also increasingly using other off-river campsites within the SRMA. These areas, such as State Bridge, could also have areas of soil concern in the future. Several acres of vegetation are planned for prescribed burns are located on erosive and steep slopes. Depending on the size and severity of the burn, soil erosion could be increased, especially in response to the summer's high intensity rainstorm. Erosion control and more intensive revegetation efforts are required to help stabilize burned areas and reduce soil loss.

The SRMA has many areas of harsh growing conditions and poor soil development due to aridness, geology, and steep slopes. The No Action Alternative would take no action to help reduce impacts from recreation uses along the river corridor. Alternatives B and C would help reduce some impacts being experienced at river campsites, and help prevent new or additional impacts at those sites or from user-created sites. Alternative C's day use permits may initially reduce visitor numbers, helping reduce soil impacts, but in the long term, user numbers would return to current levels or above. The Trough Your Rocker Trail is located primarily on bedrock, which should limit soil impacts. Locating and managing the routes may help reduce soil impacts in Zone 4.

5.4. Surface and Ground Water Quality

Affected Environment

The Colorado Water Quality Control Division has established stream classifications and water quality standards for waters in the state, including the Colorado River and its tributaries. The mainstem of the Colorado River within the SRMA is classified for agriculture, primary contact recreation, aquatic life - coldwater class 1, and water supply uses. There are water quality standards for each segment of the river, and most of the chemical standards are met. The state's 2018 Integrated Water Quality Monitoring and Assessment Report (305(b) Report) summarizes the status of the river segment and its current water quality. RMZ 1 is within a river segment that is considered to be fully supporting agricultural and recreational water uses. The report finds insufficient evidence to make a conclusion regarding water supply uses. RMZ 1 is on the state's Monitoring and Evaluation List for arsenic levels. This means there are reasons to suspect water quality impairment, but due to some uncertainties, it is premature to list the stream as impaired. Arsenic levels are generally a reflection of the geology. Exceedances could occur due to accelerated erosion increasing sediment loads to a stream, groundwater discharges, or other causes. The river segment is not supporting coldwater aquatic life class 1 due to water temperatures. It is considered an impaired water with a high state priority to address water temperatures.

The remaining portion of the SRMA is fully supporting agricultural, recreational, and water supply uses. It also is considered "not supporting" cold water aquatic life, class 1 due to temperatures. The entire SRMA is on the Monitoring and Evaluation List for possible aquatic life impairment, which appears to be tied to stream temperatures.

The state has set a daily maximum water temperature standard for the Colorado River of 23.9^{o} C from April to October. The maximum weekly average temperature (MWAT) standard for this same time period is 18.3^{o} C. In the late summer, stream temperatures are generally high during the late afternoon due to lower flows and high air temperatures. Coldwater aquatic life can tolerate these temperatures if there is sufficient night time drops in temperature, providing a recovery period. The BLM monitors water temperatures at the Highway 9 Bridge, Radium, and Pumphouse during the summer months. Since

2007, the Highway 9 Site has had two years (2007 and 2013) where the MWAT was at or above 18.3^{o} C during the end of July. In 2010, the MWATs exceeded the state standard from July 21 to August 12th. Downstream, the Blue River's colder flows help lower the Colorado's temperatures. Although summer temperatures can be high, the BLM sensors have not recorded temperatures that exceed the standards at Pumphouse or Radium. Additional temperature monitoring is being done by the Wild and Scenic Stakeholders' Group.

Macro-invertebrate sampling along the river corridor monitors long-term water quality. Colorado Parks and Wildlife and the Wild and Scenic Stakeholders' Group are two of the groups collecting data, with many of the samples being analyzed at the BLM's Aquatic Bug Lab. As of yet, no immediate concerns or trends have been identified.

Groundwater in the SRMA primarily consists of small springs and seeps used by wildlife. These sources are generally considered to be meeting agricultural water quality, and are not considered to be potable. The Radium Warm Springs (a.k.a. Paddlers Hot Spring) is a geothermal spring that discharges into the river. Recreationists visit the spring, and during the rafting season, visitor numbers can be excessive, impacting the site with trash.

The BLM had Pumphouse well drilled to provide potable drinking water at the Recreation Site. The well's source is groundwater and not directly under the influence of the river. The well appears to draw its water from a localized fracture system in the shale of the Colorado Group and water yields are fairly low.

Environmental Consequences – Alternative A, No Action

Under the No Action Alternative, the existing conditions would be expected to continue. Dispersed camping and large numbers of general public visitors would cause increasing amounts of trash and human waste along the river corridor and at island sites. Impacts to water quality are difficult to measure, however, since there are several variables including the site's soils, location, river flow, and precipitation, which affect contaminants reaching the river and their concentration. Increased erosion and sediment-loading to the river due to vegetation removal, bank fishing, additional and/or compacted foot trails and tent sites could reduce water quality by increased turbidity, deposition of sediments, and increased water temperature.

Visitor numbers in the Radium Warm Springs also increases the potential for coliforms and bacterial contamination. Recreationists' use of other spring sources within the SRMA is not known and is not encouraged. It is assumed that seeps and springs are not being impacted by recreational use to date, but poor campsite locations and poor sanitary practices could potentially impact ground water quality.

As water quality monitoring continues, downward trends or the identification of recreational uses being a causal factor of degradation would necessitate review of user locations and numbers, and additional limitations or restrictions may be necessary.

Environmental Consequences – Alternative B

The discussion of water quality impacts in Alternative A is pertinent to each of the alternatives. Alternative B, however, would limit camping along the river corridor to designated sites. River campsites probably have the highest potential to impact surface water quality, so limiting the number

and selecting a sustainable site would benefit water quality. Keeping the sites primitive can help reduce the amount of trash, otherwise campers tend to leave debris in fire rings. Enforcement of the new requirements would be essential to help ensure resource improvement.

Expanding the Pumphouse Recreation Site to accommodate some campers and RVs would also reduce some off-site camping impacts from user-created camp areas within the SRMA. Water service to the new campsites would be dependent upon the well's ability to support expanded service.

Vehicle closure of the Old Trough Road and the improvement of the Pumphouse-Argentine Trail connection would help protect vegetation and soil resources, which ultimately would benefit overall watershed health and water quality.

The Trough Your Rocker Trail is an existing use that would be designated for off-road vehicle use. Constructing a return route would help manage the impacts from the motorized use by selecting a sustainable route that minimizes resource impacts.

Environmental Consequences- Alternative C, Proposed Action

Water quality impacts are expected to be the same as those discussed in Alternatives A and B.

Mitigation Measures

A Carrying Capacity Study (recommended in the RMP) is ultimately needed for the SRMA to determine how to protect water quality from any impacts due to recreational uses.

Continue to work on reducing user created paths along streambanks to maintain or improve riparian bank stabilizing vegetation.

Cumulative Effects

Past and current land uses within the SRMA have not been found to be impacting the overall surface water quality. The Upper Colorado River is subject to multiple water diversion projects. Northern Colorado Water Conservancy District's Windy Gap Project has a storage and pumping system that includes Windy Gap Reservoir, Grand Lake, and Granby Reservoir, diverting water to the Colorado-Big-Thompson Project's East Slope distribution system. Denver Water Board's Moffat Collection System draws water from the Fraser and Williams Fork Rivers, tributary to the Upper Colorado, delivering those waters east of the Continental Divide through a series of diversion tunnels. Together, these and other diversions alter the flow regime of the Upper Colorado River, reducing peak and annual flows, and impacting water quality. With less water in the river, the shallower water column heats up, reducing the dissolved oxygen concentrations. The reduced flows also have lower sediment transport capabilities.

The proximity of the Trough Road and the railroad to the river raises the possibility of a chemical spill or other contamination if there was an accident during transport. The potential impact is dependent on the location of the accident, amount of spill, material involved, soil, weather, and river flows, in addition to other factors.

Natural conditions such as the geology and high-intensity rainstorms can contribute large amounts of sediments or alter the chemical concentrations. Sheephorn Creek's watershed has many erosive soils on steep slopes, and is naturally a larger sediment contributor than upstream tributaries. Arsenic levels within the Zone 1 segment of the river appear to be due to geologic sources and not a pollutant. Upstream areas such as the Muddy Creek watershed are impaired due to arsenic, and there are no historic mining areas, or current industrial or manufacturing activities. The western portion of the watershed's volcanic geology and the marine shales, however, are more likely sources of the arsenic. (Welch, A.H., Westjohn, D.B., Helsel, D.R., and Wanty, R.B., 2000, Arsenic in ground water of the United States-- occurrence and geochemistry: Ground Water v.38 no.4, p.589-604. Faust, Samuel D., Aly, Osman M., 1981, Chemistry of Natural Waters, Ann Arbor Science Publishers, Inc.) Current water quality concerns of supporting aquatic life health and stream temperature impairment are more reflective of the upstream diversions that drastically alter the hydrology. Current depletions result in increased chemical and sediment concentrations, and alter the relationship of the river with its floodplains.

Future land uses and intensities, including the number of recreationists, may increase their impacts as the river's hydrology continues to change.

The Windy Gap and Moffat Firming Projects will divert additional water from the river (Ero Resources Corporation, Boyle Engineering Corporation, Water Resources Technical Report- Windy Gap Firming Project, published by Bureau of Reclamation, December 2007.) This reduction in flows, results in shallower water and with increasing summer temperatures, make increased sediment loads from OHV use, prescribed burns, or riverside camping potentially more significant. The No Action Alternative would continue land use management that could impact water quality. Alternatives B and C's restriction of river camping to designated, permitted sites is more likely to reduce impacts by reducing the numbers of users and selecting less impactful camping locations. Ground water sources primarily occur outside of the management actions of this plan, except for the Radium Warm Springs. Alternative C's day use permits may help reduce the number of users initially, but ultimately protecting ground water quality of the spring will require restricting the number of users and ensuring that trash, human, and pet wastes do not drain towards the springs.

5.5. Wetlands and Riparian Zones

Affected Environment

The SRMA has a continuous riparian zone along the Colorado River that varies in vegetative composition and width depending on the valley confinement and soils.

In RMZ 1, the valley is wide and the well-developed floodplain supports private hay meadows and areas of willows and cottonwoods. Upstream river diversions and practices have reduced the natural support of the riverine wetlands, and the BLM's Junction Butte property in RMZ 1 is irrigated with a pump to draw the water up to the historic floodplain.

RMZ 2 and the canyons in RMZ 3 are dominated by the geology and have a narrow riparian community. The Gore Canyon Property in RMZ 5 and the Radium Property are located in wide floodplains, and were previously private property which supported irrigated hay meadows. Plant species within these areas include timothy and introduced grasses. The Radium property has some river hawthorns, possibly planted by earlier landowners, as there are very few occurrences within the Upper Colorado corridor.

In the Pumphouse Recreation Site, the riparian zone is fairly narrow. A buck and rail fence was constructed in the Pumphouse Expansion Area to help reduce recreational use along the stream bank. The sign going into the area discourages boat launching except at the constructed boat ramps, however, users have created a well-compacted foot path between the river and the fence and reduced streambank vegetation. Flooding in recent years has eroded large portions of bank, leaving a small portion of the fence suspended in the air.

The Radium Site's new boat ramp expansion required a 404 permit from the Army Corps of Engineers. Under a condition of that permit, the BLM is required to reduce impacts to wetland areas adjacent to the parking lot and to the acquired property located on the east side of the County Road, upstream of the Recreation Site. A portion of the Radium site is irrigated to reduce weeds and promote good vegetative cover for wildlife habitat.

Resuming irrigation of the Gore Canyon Ranch property in RMZ 5 is intended to help combat the invasive weeds and to support the wetland vegetation that provides wildlife habitat.

Environmental Consequences – Alternative A, No Action

Under the No Action Alternative, the existing conditions in the SRMA would be expected to continue or become worse. Expanding networks of footpaths, tent sites, fire rings, and firewood gathering would be expected to continue. Island and riverside campsites would increase the spread of invasive species and reduce woody riparian and wetland species. This is due to both the increase in bare ground at high use areas providing a seed bed and the river transporting the seed to downstream sites. Without a vigorous woody riparian component, stream banks would be more vulnerable to erosion.

Environmental Consequences – Alternative B

Reducing the number of river campsites to designated sites, with a determined capacity per site, would help reduce new or additional impacts to wetland and riparian vegetation. Only allowing riverside camping in RMZ 3 would also protect riparian vegetation in RMZs 1, 2, and 5.

Developing a new area within the Pumphouse Recreation Site for campers and RVs would not directly impact wetland or riparian zones. It could help reduce impacts from dispersed camping in other areas of the SRMA, shifting their use the new developed campsites, which would be hardened and designed for that type of use. Trail work connecting the Pumphouse area and the Argentine Trail could increase recreational use in the meadow areas of Gore Canyon Ranch—but those impacts would likely be minimal, as most users would tend to stay on the trail. If there is increased use of the trail resulting in new user created routes impacting wetland or riparian vegetation, then signage may be needed. The terrain and vegetation would not make barriers practical.

The Trough Your Rocker Trail and any return routes would be located outside of wetland and riparian areas, as is the Old Trough Road.

Environmental Consequences- Alternative C, Proposed

Alternative C's requirement of day use permits could possibly reduce some recreational numbers. Since the permits are unlimited and self-issued, however, the actual impacts are unclear. Other impacts would be the same as those in Alternative B.

Mitigation Measures

None.

Cumulative Effects

The overall conditions of wetlands and riparian zones within the SRMA are meeting the Land Health Standards. Some current and past land uses have resulted in small areas of negative riparian or wetland impacts. Livestock grazing and prescribed burning have negatively impacted the spring-fed drainages on Yarmony Mountain, contributing to soil trampling, channelization of wet meadows, and increased invasive vegetation. Past and current recreation impacts have included streambank vegetation removal, bank sloughing, and spread of invasive species within the riparian zones of the Colorado River and tributaries.

Under future scenarios, these types of localized impacts would be expected to continue. Although best management practices are applied to all permitted and agency actions to protect these resources, some impacts will still occur. Impacts from the recreating public are the most likely to occur, as user numbers continue to increase and heavily-used areas continue to expand. The No Action Alternative would continue this trend of increasing recreational impacts to riparian and wetland areas. Under Alternatives B and C, impacts in RMZs 2, 3, and 5 are addressed by limiting the number and location of campers along the river corridor. This is a proactive step to increase protection of the riparian zones along the river. Day use permits (Alternative C) may initially reduce visitor numbers, but as recreationists become accustomed to the permits, and the overall increase in users continues, they are unlikely to help reduce overall impacts to the riparian and wetland zones. No action is proposed for RMZ 1 in this plan.

5.6. Visual Resources

Affected Environment

Visual resources are the visible physical features of a landscape that convey scenic value. The Proposed Action is within an area designated as Visual Resource Management (VRM) Class II in the 2015 KFO RMP. The objective of this class is to retain the existing character of the landscape. The level of change to the characteristic landscape should be low. Management activities may be seen, but should not attract the attention of the casual observer. Any changes must repeat the basic elements of form, line, color, and texture found in the predominant natural features of the characteristic landscape. The approved VRM objective classes provide the visual management standards for the design and development of future projects and for rehabilitation of existing projects. The contrast rating process (Manual Section 8431) is used as a visual design tool in project design and as a project assessment tool during environmental review. Contrast ratings are required for proposed projects in highly sensitive areas or high impact projects, but may also be used for other projects where it would appear to be the most effective design or assessment tool. Projects must comply within contrast limits identified for designated VRM objective classes or mitigate for potential effects so that contrast ratings are not exceeded for a given class.

The planning area consists of gentle to steep slopes, numerous drainages and draws and is along the main Upper Colorado River drainage. Vegetation within the planning area consists of pinyon/juniper stands which have greater density in some areas with scattered pinyon/juniper trees encroaching on sagebrush steppe areas. Some drainages and banks of perennial waterways include fir and cottonwood trees. Rock outcrops, cliff faces and intermittent exposed soils are also visible within the area.

Vegetation within the area provides the dominant visual elements to the landscape in regards to the project areas color and texture. Dark to reddish rock outcroppings and cliffs, buff to tan exposed soils, lighter green colored sagebrush areas and the darker green colored pinyon/juniper stands provide color contrasts to the area.

The Key Observation Points (KOPs) from where the Proposed Action may be visible to the casual observer include the Trough Road (which is also a portion of a nationally designated Scenic Byway) and the Colorado River, which is highly utilized for river recreation opportunities with three developed recreation sites. Viewshed analysis results (**Appendix A**, Figures 9 and 10) show the majority of the project area is within view of the KOPs which fall within the SRMA and the Colorado River Headwaters National Scenic Byway (CRHNSB).

Environmental Consequences – Alternative A – No Action

Under the No Action Alternative, the SRMA would continue to be managed as it is currently and no structures, campground expansion, or trails would be constructed. Visual Resources would not be impacted.

Environmental Consequences – Alternative B

The campground expansion would include earth-moving activities, including extending the existing road at the end of the group campsites and the construction of an RV camping area. An additional vault toilet would be included in the area. The expansion would be in the footprint of the current campground and would be unnoticeable to casual observer. During construction, machinery would be visible from the KOP above the campground. The impacts of construction would be short term and temporary in nature. The remaining elements of the Proposed Action would have no effect on Visual Resources.

Environmental Consequences – Alternative C - Proposed

The impacts listed in Alternative B would the same in Alternative C

Mitigation Measures

None.

Cumulative Effects

Past Actions

Vegetation treatment projects to include mechanical and prescribed fire have affected the viewshed along the byway corridor by creating more openings in the pinyon/juniper woodland and fire scars. Rights of way, including power lines and the railroad, have impacted the area as well. In the 2015 Kremmling RMP, protections were put in place to avoid future impacts to the viewsheds within the SRMA. These protections included managing the SRMA as a VRM Class II and closing the SRMA to any future Rights of Way.

Present Actions

Current vegetation treatment projects in the area Dry Gulch and the Yarmony Mountain areas are likely to have impacts in the project area as vegetation reduction is proposed at up to 90% in some areas. The

expansion of Grand County's gravel pit would have short term impacts until such time that those impacts are mitigated.

Reasonably Foreseeable Future Actions
Vegetation treatments are expected to continue over the course of the future.

Proposed Action – Alternative C
The campground expansion would have short-term impacts as equipment would be brought in to be used for construction. The addition of the routes, trails or a permit system would not add any impact to the resource.

Alternative B
The cumulative impacts would be the same as the proposed action.

No Action – Alternative A
The no action alternative would not add any impacts to visual resources.

5.7. Forest Management and Forest/Woodland Vegetation

Affected Environment

Forest and woodland vegetation within the Upper Colorado River SRMA is primarily comprised of pinyon-juniper or Douglas-fir stands, although other coniferous species, aspen and cottonwood are present as well. Many of the pinyon-juniper stands, comprised of varying combinations and quantities of pinyon pine (*Pinus edulis*), Rocky Mountain juniper (*Juniperus scopulorum*), and Utah juniper (*Juniperous osteosperma*), exhibit old growth characteristics. Stands that exhibit these characteristics contain a cohort of dominant, old, slow-growing trees. These old trees, and/or the stand(s), would have several of the following attributes: large trees for species and site; trees that vary in diameter; some trees with dead branches/limbs that often includes part of the main stem(s); exhibit dead, broken, or deformed tops, and/or bole or root rot (bird cavities are often found in dead portions); occasional dead, standing trees (likewise, often containing bird cavities); downed dead trees or portions of same; and trees with broad non-symmetric tops; or trees with hollow/split trunks. Some of these same attributes that contribute to the structural and ecological complexity of these stands make these trees an irresistible target for visitors looking for firewood.

Pinyon-juniper stands, as well as other stands of forest and woodland vegetation in the SRMA show evidence of past firewood collection, especially around dispersed campsites. Dead branches, limbs and dead portions of main stems have been removed from trees, and dead trees have been cut.

Environmental Consequences – Alternative A, No Action

Selecting the No Action alternative would continue current use. Camping permits would not be required for floatboaters and camping within ¼ mile of the river in RMZ 3 would not be restricted to 25 designated sites. In addition, hikers would not be restricted from camping within ¼ mile of the river. Physical injury to trees at an increasing number of sites would begin and/or continue to occur, exacerbated by an increasing number of users. Soil compaction, in an increasing number of localized sites, and its deleterious effect on tree health and vigor, would likely occur. Insect and disease outbreaks could become more frequent as a result of the increasing number of injured and stressed trees. The

structural and ecological complexity of stands exhibiting old growth characteristics within a ¼ mile of the river could become increasingly compromised as firewood becomes scarcer and campers resort to scavenging further afield, cutting dead portions of main stems and cutting standing dead trees.

Environmental Consequences – Alternative B

Both of the action alternatives would designate 25 campsites along the river in RMZ 3. Camping would only be allowed at these designated sites and would not be allowed in other locations within ¼ mile of the river. While neither action alternative would impact forest management, the proposed actions could impact forest and/or woodland vegetation. Restricting camping to 25 designated sites within ¼ mile of the river could result in a small reduction in adverse impacts associated with firewood gathering to forest and woodland vegetation. Trees that have suffered injuries in the past, located on existing sites that are not designated, should have a chance to recover. New injuries to vegetation on non-designated sites would be less likely to occur. Likewise, soil compaction, if any, that has occurred at these sites, and the associated increase in stress on affected trees, should decrease over time. The existing structural and ecological complexity of stands exhibiting old growth characteristics within ¼ mile of the river would be maintained, at least for those stands not located adjacent to the 25 designated sites. Neither action alternative proposes limits on dispersed camping within the SRMA beyond ¼ mile from the river.

There is no forest or woodland vegetation within the location identified for the Pumphouse Campground expansion so that action would not result in direct or indirect impacts, either beneficial or adverse, to forest or woodland vegetation.

Individual trees could be cut in developing a return route for the Trough Your Rocker Trail.

Developing a connector trail between the Pumphouse Recreation Area and the Argentine Trail and closing the old Trough Road alignment, would not result in direct or indirect impacts, either beneficial or adverse, to forest and woodland vegetation.

Environmental Consequences – Alternative C, Proposed Action

The proposed action would have the same impacts as alternative B.

Mitigation Measures

The design feature to include language extolling the benefits of old growth stands and their woody components, and encouraging visitors to bring their own firewood would help reduce visitors' impacts on old growth pinyon/juniper stands in the project area.

Cumulative Effects

Neither of the action alternatives, nor the No Action alternative, would contribute measurably to cumulative impacts to forest and woodland vegetation within the SRMA.

5.8. Recreation

Affected Environment

The SRMA within KFO is managed to provide and maintain floatboating, fishing opportunities, and associated activities in a roaded-natural setting. Within the KFO SRMA, an estimated 95,000 visitors

participate in river-related activities annually. Recreation visitors from Eagle and Routt counties use the Trough Road (Grand County Road 1 and Eagle County Road 11) as a primary access to the Colorado River. Recreation use within these areas peaks from mid-July through Labor Day. The area is used for dispersed camping or day use by boaters, hikers, and anglers during the summer months; extreme jeepers; big game hunters in the fall; and by antler shed hunters in the spring.

Recreation Use Permit fee envelopes provide the foundation for the monitoring of non-commercial use on the Upper Colorado River from Pumphouse to State Bridge. By calculating the number of fee envelopes collected and the number of people based on information provided on fee envelopes by visitors, the BLM is able to determine an estimate of the number of yearly visitors. Traffic counters also help support user data. Before 2005, private users ranged from 6,500 to 10,000 people per year. During these years, poor compliance with the permit/fee system means that visitation may have been higher than reported. From 2005 to 2007, the private user numbers doubled from 10,087 to 20,235. Between 2007 and 2011, the numbers stayed between 20,000 to 25,000 private users on the river between Pumphouse and State Bridge. These numbers likely underestimate the number of visitors, because the BLM did not count visitation from use of season passes. In 2012, anyone purchasing a season's pass was asked how many times a year they used the pass on average, and how many visitors, on average, were with them each time, in order to provide an estimate of visitors with season passes. The number of season passes sold was approximately 550 passes from 2016 to 2018. A majority of the private users camp overnight along the river either in designated camping sites or in dispersed sites.

Conflicts between user groups have increased significantly over the years with numerous complaints concerning unregulated camping along the river, associated sanitation problems, and unregulated recreation at Warm Springs.

Environmental Consequences – Alternative A – No action

The no action alternative would benefit the user that is looking for a non-permitted and unregulated river. However, the lack of a permit-based system would allow less flexibility to implement stipulations for private users to protect resource values, such as requiring fire pans for campfires, portable self-contained toilet system, or other adaptive management options for responding to emerging issues. Permit stipulations can be added, removed, or modified as needed in response to changes in use, technology, or other trends.

Continuing to allow dispersed camping anywhere along the UCR without a permit system would promote a continuation of "camp grabbing" habits. The apparent lack of available campsites would promote continued and increasing frustrations for visitors as the number of visitors continues to grow. It would promote a continuation of broadly dispersed and growing sanitation issues, especially between Warm Springs and Radium Recreation Area, which affect the quality of recreational experiences.

The no action alternative would not allow for the expansion of Pumphouse Campground. The current layout of Pumphouse Campground, not designed with any room for parking of RVs or campers would persist, creating parking and public safety hazards. The Trough Your Rocker Trail and the proposed return loop would not be designated, resulting in a negative impact to the jeeping community. The closed road that connects Pumphouse Recreation Area to the Argentine Trail would not be designated, improved or maintained. The approximate .5 mile of Old Trough Road would not be closed to motorized traffic, continuing to encourage railroad trespass for river access.

Environmental Consequences – Alternative B

Requiring camping permits for private users would have both adverse and beneficial impacts. Private river users are not required to have a permit currently, but are required to stop and pay a use fee at Pumphouse, Radium, and State Bridge Recreation Areas. Requiring a river campsite to be reserved in advance would require visitors to invest extra time into planning their trip and could even discourage some visitors. The closure to dispersed camping within ¼ mile of the river would reduce hike-in camping opportunity where it currently exists, for example, in the vicinity of Warm Springs and upstream from Pumphouse. It would result in day use only along most of the river corridor, except at designated riverside campsites. Hike-in campers would be displaced to developed campgrounds at Pumphouse, Radium or Mugrage, or to other sites farther than ¼ mile from the river.

The number of overnight boating permits would be limited to the number of campsites designated. This would improve the experience for visitors by providing a guaranteed, reserved campsite and avoid the "camp grabbing" described earlier. The permit would provide better assurance that the reserved site would be available upon arrival. It would also reduce impacts associated with the proliferation of new campsites, such as sanitation issues, loss of surface vegetation and soil compaction, damage to trees from the harvesting of branches for firewood, fire scars, and river bank erosion. All of these impacts affect the quality of recreational experiences, which correlate with the quality of resource conditions.

The RV site expansion at the Pumphouse Campground would enhance visitor accommodations by giving RVs/travel trailer campers their own space with amenities such as water and electricity. The lower camping loop would be restricted to tents only, consistent with its design, and would improve public safety by reducing vehicle congestion, line-of-sight visibility in a high-use pedestrian area, and improving access for emergency vehicles.

Adding a connector trail between the existing Argentine Trail and Pumphouse Campground would give the user a more backcountry experience in a natural setting. It would also expand the designated trail system providing Pumphouse visitors more and longer options for off-river recreational opportunities.

Formally designating the Trough Your Rocker Trail addresses a missed opportunity in the 2015 Travel Management Plan. The Trough Your Rocker Trail was an existing jeep trail that was brought forward late in Travel Management Planning process. It was decided to officially designate it by analyzing it through a separate National Environmental Policy Act process. Extending the trail to an existing road enhances the user experience by offering a loop instead of an out-and-back trail.

Closing ½ mile of the old Trough Road alignment would have negligible impact. This section of road is lightly used by the public for access to a single campsite located in the bottom of a drainage, and promotes illegal access to the river by encouraging trespass across the railroad right of way.

Environmental Consequences – Alternative C - Proposed

The impacts listed in Alternative B would be the same as Alternative C with the addition of the following: Requiring Day Use Permits for private river users would have both adverse and beneficial impacts. Private river users are not required to have a permit currently but are required to stop and pay a use fee at Pumphouse, Radium, and State Bridge Recreation Areas. The implementation of a private user permit system without setting caps on day-use visitation would allow the KFO to include specific stipulations that protect natural resources, promote RSCs, and support river management objectives. A

permit system for private users would benefit overall management of the SRMA by providing a means to collect better data on private use of the river, leading to more comprehensive understanding and management of use patterns along the river corridor.

Mitigation Measures

None.

Cumulative Effects

Past Actions

The SRMA's close proximity to major metropolitan areas and neighboring communities continues to increase as a backyard recreation area. In response to increasing recreational use, the KFO has had to limit motor vehicle use by location and by season; increase signage, field staff, and visitor services; create brochures and maps for visitors; increase management controls in order to maintain natural resource settings; and direct recreational use in order to protect resources.

Present Actions

Ongoing implementation of the RMP objectives continue within the SRMA, to include signing road closures, placing kiosks, and removing picnic tables and other improvements at dispersed campsites along the river corridor. Within the SRMA new issues are necessitating that the BLM consider additional administrative remedies for recreation use. Some of the issue are domestic animals, overcrowding, noise, campsite grabbing, and visual aesthetics.

Reasonably Foreseeable Future Actions

The demand for developed recreation sites would continue to increase as more people move into the area and all forms of recreation continue to increase. Demand for developed recreation sites may lead to more campgrounds, trails, trailheads, signs, and associated facilities. Areas along the river would see increases in non-motorized use as visitors hike and float along and to the river.

Proposed Action – Alternative C

The proposed action would provide for more satisfying recreational opportunities along the river corridor, resulting in fewer user conflicts. Use levels may decline after implementation and users may choose to recreate in areas without fees, such as further downstream, but more than likely visitation would rise again over time, especially if the population in the area continues to grow as is projected. More kiosks would be installed along with more signage. Pumphouse Campground would be expanded to meet the needs of those visiting the SRMA with an RV, and improve health and safety conditions with regard to traffic and emergency access. The expansion of the trail system in RMZ 4 would meet the needs of the jeeping community by providing a better road system with a loop opportunity. The connector trail to the Argentine Trail would allow access to more trail users than it currently has at this time, and would add to hiking opportunities from Pumphouse.

Alternative B

The cumulative impacts would be the same as the proposed action.

No Action – Alternative A

With the ever-growing population of the Front Range and the surrounding communities, the no action alternative wouldn't allow for improved and adaptive management in the SRMA. The increased

visitation with insufficient management controls in place would result in continued user conflicts, a decline in the quality of experiences, and additional efforts to mitigate these conflicts.

5.9. Access and Transportation

Affected Environment

The Proposed Action is within a Travel Management Area that is designated as Limited, where motorized and mechanized travel is limited to designated routes and their cross-country travel is not allowed. Except for the Argentine Trail to the east of Warm Springs, and the Gore Canyon Trail, there are no restrictions for horseback travel. There are no restrictions for foot travel throughout the SRMA. Several primitive roads within the area have been designated to allow full-size vehicle traffic for public access related to area recreation opportunities including but not limited to camping, hunting, hiking, scenery and wildlife viewing. In some instances specific route designations limit the general public to specific modes of travel such as foot, horseback, bicycle, and certain modes of motorized travel. Designated Administrative Routes allow specific entities, such as Agency employees, or Right-of-Way holders to utilize the route by motorized travel specifically for the management of lands, permits or other authorizations. Current designated routes were established in the 2015 KFO RMP with alignments limited to certain areas due to the area's topography and vegetation.

Environmental Consequences – Alternative A – No Action

The no action alternative would not have impacts on access and transportation.

Environmental Consequences – Alternative B

The closure of the ½-mile of the old Trough Road alignment would close public motorized access to a dispersed campsite along the railroad right of way. The UPR railroad administrative access would be allowed. The addition of the motorized routes in RMZ 4 would greatly enhance the recreational experience in the area by providing a loop opportunity instead of an out-and-back route. Adding the connector trail between Pumphouse Campground and the Argentine Trail would enhance the recreational experience by providing a more backcountry setting as opposed to walking on an old two-track route. The addition of permits or the campground expansion, would have no effect on access or transportation.

Environmental Consequences – Alternative C - Proposed

The Propose Alternative would have the same impacts as Alternative B.

Mitigation Measures

None.

Cumulative Effects

Past Actions
A network of trails and roads provide access as well as motorized and non-motorized recreational opportunities within the planning area. A Comprehensive Travel and Transportation Management Plan was completed in 2015.

Present Actions
Ongoing implementation of the RMP objectives continue within the SRMA, to include closing routes. Work to improve the Argentine and Gore Canyon trails continue to be priority. Yearly maintenance continues on the Pumphouse Road through an agreement with Grand County.

Reasonably Foreseeable Future Actions
The demand for trails, trailheads, signs, and associated facilities will continue to increase as more people move into the area. Areas along the river would see increases in non-motorized use as visitors hike along and to the river. Motorized use may increase in RMZ 4.

Proposed Action – Alternative C
The proposed action would create more motorized and non-motorized trails and routes within the SRMA The expansion of the trail system in RMZ 4 would meet the needs of the jeeping OHV community by providing a better road system. The connector trail to the Argentine Trail would put more people on the trail than it currently has at this time. The closing of ½ mile of the old Trough Road alignment would make it harder to access a dispersed campsite along the river, but being next the railroad right of way, it would decrease the amount of trespassing.

Alternative B
The cumulative impacts would be the same as the proposed action.

No Action – Alternative A
With the ever-growing population of the Front Range and the surrounding communities, the no action alternative wouldn't allow for the expansion of the travel management network. The increased visitation would put more users on the trails and routes, and lead to more user conflicts.

5.10. Wild and Scenic Rivers

Affected Environment

Colorado River segments 4 and 5 which extend from Confluence to State Bridge, represent one of the last major river corridors in Colorado that is relatively undeveloped. They were found eligible in 2007 for inclusion into the National Wild and Scenic River System (NWSRS) as recreational segments. In these segments, residents and visitors can experience how Colorado appeared, and see how rural ranching and farming functioned, before major population increases began in the state from 1970s onward. In addition, visitors can experience a broad range of values, including challenging whitewater rafting, scenic float trips, historical structures and routes, and plants and animals that are infrequently seen elsewhere in the state.

The floatboating and fishing values in the area have been identified as important economic factors for the community. The river segments and their ORVs are within one day's drive of major metropolitan

areas in the Front Range and within a one-hour drive of three major resort communities, making them highly accessible.

Section 4, the Gore Canyon segment, contains outstanding remarkable recreational (fishing, floatboating, and scenic driving), geological, wildlife (bald eagle and river otter), and historic (Historic Moffat Road, early hydroelectric projects, and a WWII German prisoner of war camp) values.

Section 5, the Pumphouse to State Bridge segment, contains outstanding remarkable recreational (fishing, floatboating, and scenic driving), scenic, geological, wildlife (bald eagle and river otter), and historic (Historic Moffat Road, early hydroelectric projects, early copper mining, Brass Balls Mine/Cable Rapid Cabin, and State Bridge) values.

A draft suitability report was prepared in 2011 and made a preliminary determination that segments 4 and 5 were suitable for inclusion into the NWSRS with a recreational classification. After the draft suitability report was published, the BLM received an alternative river management proposal from the Upper Colorado Wild and Scenic Stakeholder Group (Stakeholder Group). The Stakeholder Group is comprised of more than 20 entities that include state government, local governments, and private landowners; west slope and east slope water users; and recreation and environmental advocacy groups. The Stakeholder Group's proposed plan is designed to balance permanent protection of the ORVs, certainty for the stakeholders, water project yield, and flexibility for water users. The proposed alternative included "ORV indicators" for flow-influenced ORVs, and "resource guides" reflecting desired ranges of factors that are believed to influence ORVs, such as flow, water temperature, water quality, and usable boater days. The proposed plan also included long-term protection measures and voluntary cooperative measures designed to protect and support the ORVs.

The June 2015 ROD for the KFO RMP made a decision to rely upon the Stakeholder Group Plan, in concert with federal land management authorities, to maintain and enhance the ORVs identified for river segments 4 and 5. The official suitability determination was deferred while the Upper Colorado River Wild and Scenic Stakeholder Management Plan is being implemented and the effectiveness of the plan is being evaluated. Under this Plan, the eligibility determinations made by the BLM would remain in place, along with the protections afforded to eligible segments under the National Wild and Scenic River Act and other Federal administrative authorities.

Environmental Consequences – Alternative A – No Action

Unregulated camping could adversely impact those segments by allowing a continuation of the current camp grabbing habit, rendering otherwise vacant campsites unavailable. The No Action alternative would promote continued proliferation of dispersed campsites that cause structural damage to streambanks, soil compaction and erosion, increased sedimentation, damage to riparian and other vegetation, as well as sanitation issues. Any of these impacts alone could degrade water quality – together, their impacts would be more significant. The lack of a permit system would not allow the agency to regulate the river in a way that protects the ORVs from issues that arise from overcrowding.

Environmental Consequences – Alternative B

Recreation use on Colorado River segments 4 and 5 is regulated by management of the Upper Colorado SRMA. Intensive use occurs at developed sites and on the river, itself. The number of overnight boating permits would be limited to the number of campsites designated. This would improve the experience for

visitors by providing a guaranteed, reserved campsite, rather than floating and hoping to find an available site. The permit would provide better assurance that the reserved site would be available upon arrival. It would also reduce impacts associated with the proliferation of new campsites, such as sanitation issues, loss of surface vegetation and soil compaction, damage to trees from the harvesting of branches for firewood, fire scars, and river bank erosion. The reduction of these impacts would protect water quality, recreation related ORVs and other ORVs such as scenic and historic values.

Closing the old Trough Road alignment to motorized travel would reduce impacts in the corridors of the Colorado River segments. Damage to vegetation and sedimentation would be reduced or eliminated, which would protect water quality that supports ORVs.

Alternative B is likely to better support the management objectives and goals expressed in the stakeholder group plan. The stakeholder group plan is designed to protect the range and quality of the ORVs, with a focus on the recreational floatboating and recreational fishing ORVs. The Stakeholder Group has implemented an ongoing survey process to identify factors that visitors believe to affect recreational opportunities and quality of recreational experiences. Critical factors that have been identified include crowding, quality of recreational facilities, and scenic quality. The resource management issues that are addressed by the proposed management plan are directly related to these factors. Specifically, if campsites are unavailable because of unregulated use, then that leads to possible perceptions of crowding, conflicts between users, and reduced recreational opportunities. If campsites are degraded because of factors such as human waste, garbage, and erosion, then visitors may conclude that the quality of facilities is degrading their experience. If access routes are not adequately managed to prevent unauthorized and conflicting uses, then that can lead to visitor perceptions of user conflict and diminished scenic quality. If private use of campsites along the river corridor is unregulated, then visitors who float the corridor with commercial outfitters may conclude that the quality of their experience is diminished by crowding and unattractive campsite at the river's edge. Finally, implementation of a permitting system for private use of campsites would allow BLM to collect more comprehensive data on actual river use, which would complement the Stakeholder Group's efforts to collect visitor data.

Environmental Consequences – Alternative C - Proposed

The impacts would be the same as Alternative B, with the following addition: Implementation of a day use permitting system would significantly increase the volume and quality of visitor data that is available to the BLM. The additional data would allow the BLM to work more closely and effectively with the Stakeholder Group in monitoring the status of ORVs, and in designing management responses to address emerging ORV management issues.

Mitigation Measures

None.

Cumulative Effects

Past Actions

In March of 2007 the Kremmling and Colorado River Valley Field Offices completed the eligibility phase of a Wild and Scenic River evaluation as part of the resource management plan revision process. Segments 4 and 5 were deemed eligible for inclusion into the National Wild and Scenic River System as

recreational segments. In April of 2011 a suitability report was completed by the BLM Kremmling and Colorado River Valley Field Offices and the USFS White River National Forest. The report found that Segments 4 and 5 were deemed suitable for inclusion into the National Wild and Scenic River System as recreational segments. In the 2015 ROD for the Kremmling Field Office RMP, the official suitability determination was deferred while the Upper Colorado River Wild and Scenic Stakeholder Management Plan is being implemented and the effectiveness of the plan is being evaluated.

Present Actions

The Stakeholder Group continues to work to finalize ORV indicators and resource guides. As a part of this effort, the group continues to collect data relating to visitor use, visitor satisfaction, streamflows, and water quality. The BLM and the USFS have signed a joint Memorandum of Understanding with the Stakeholder Group that specifies how the federal agencies and stakeholders will coordinate and collaborate to jointly maintain the ORVs for river segments 4 and 5.

Reasonably Foreseeable Future Actions

The Stakeholder Group has made a commitment to finalize ORV Indicators and Resource Guides by June 2020. Once the ORV indicators are finalized, the group will continue to monitor the indicators and share that information with the BLM. If monitoring indicates potential degradation, or emerging issues with the ORVs, then the Stakeholder Group will coordinate with BLM to identify appropriate responses.

Proposed Action – Alternative C

Intensive use occurs at developed sites and on the river itself. The number of overnight camping permits would be limited to the number of campsites designated. This would improve the experience for visitors by providing a guaranteed, reserved campsite. The permit would provide better assurance that the reserved site would be available upon arrival. It would also reduce impacts associated with the proliferation of new campsites, such as sanitation issues, loss of surface vegetation and soil compaction, damage to trees from the harvesting of branches for firewood, fire scars, and river bank erosion, thereby protecting water quality, and scenic, historic and recreation-related ORVs. Closing the old Trough Road alignment to motorized travel would reduce impacts from motorized use and dispersed camping in the corridor of the Colorado River segments. Damage to vegetation and sedimentation would be reduced or eliminated, protecting water quality that supports ORVs. Overall, the Proposed Action would provide the BLM with mechanisms to address emerging issues in the management of the ORVs within the KFO. The Proposed Action would have little to no cumulative impacts except for potentially moving some recreational users downstream or to other rivers where there are no permit requirements.

Alternative B

The cumulative impacts would be the same as the proposed action.

No Action – Alternative A

Unregulated camping could have adverse impacts from structural damage to streambanks, causing sedimentation and damage to riparian vegetation, which could degrade water quality. Not having a permit system in place would not allow the agency to regulate the river in a way that protect the ORVs from issues that arise from overcrowding and being “loved to death”. Cumulative impacts from unregulated use on the river would be severe.

5.11. Colorado Standards for Public Land Health

In January 1997, the Colorado BLM approved the Standards for Public Land Health. These standards apply to upland soils, riparian systems, plant and animal communities, special status species, and water quality. Standards describe conditions needed to sustain public land health and relate to all uses of the public lands. If there is the potential to impact these resources, the BLM will note whether or not the project area currently meets the standards and whether or not implementation of the Proposed Action would impair the standards.

Standard 1 – Upland Soils

Land Health Assessments have been conducted in a few portions of the SRMA, primarily in the areas around Pumphouse and Radium. Overall, upland soils are meeting the Land Health Standard, especially on a landscape scale. There are site-specific areas with soil concerns- poor vegetative cover, active erosion, compaction, etc.

The No Action Alternative does not help protect or maintain overall soil health, nor move areas of concern towards meeting the Standard because they allow the continued proliferation of dispersed campsites and the associated soil compaction and erosion, streambank stability, vegetation and sanitation impacts that area currently occurring.

Alternatives B and C help reduce user impacts, designating areas where use is appropriate for a determined number of campers. These actions appear to maintain or even improve soil health within the Colorado River corridor from Zones 2-5.

Standard 2 – Riparian Systems

Riparian inventory and some monitoring has been done along the Colorado River and tributaries within the SRMA. Overall, the riparian systems are in proper functioning condition, but there are site-specific concerns primarily due to the large number of recreationists.

The No Action Alternative is not expected to help maintain overall condition or move problem areas towards meeting the Standard because they allow the continued proliferation of dispersed campsites and the associated soil, riparian vegetation, and water quality impacts that area currently occurring.

Alternatives B & C help reduce the number of problem areas by limiting river corridor camping to designated sites. There could be some additional decrease in impacts under Alternative C, depending on whether day use permits affect visitor numbers. Alternatives B and C's restriction of riverside camping to only Zone 3 would grant the greatest protection to river corridor vegetation. Offsite impacts to other riparian areas within the SRMA would continue or perhaps increase, if users relocate to unregulated areas.

Standard 3 – Plant and Animal Communities

Healthy, productive plant and animal communities of native and other desirable species are maintained at viable population levels commensurate with the species and habitats potential. Plants and animals at both the community and population level are productive, resilient, diverse, vigorous, and able to reproduce and sustain natural fluctuations, and ecological processes.

Alternatives B and C control of visitor use would prohibit camping in the river corridor in undesignated sites and concentrate impacts of camping in designated sites. This would allow some vegetative recovery in the former dispersed campsites that would not be designated for future use. Plant and animal communities here would begin to meet Standard 3. Designated sites, although small in size, would see a slight reduction in this standard. Site rehabilitation of impacted areas not needed for camping could help to reduce these impacts to vegetation and the associated animal species dependent on them.

The No Action Alternative would continue unregulated dispersed camping.

Standard 4 – Special Status Species

Special status, threatened and federally and state-listed endangered species, and other plants and animals officially designated by the BLM, and their habitats are maintained or enhanced by sustaining healthy, native plant and animal communities.

The Preferred Alternative of controlling visitor use would help to limit disturbance impacts to both the habitat and individuals of Special Status Plants and Animals. Some disturbance from visitor use, particularly to nesting raptors, could continue; this impact could be reduced by education of visitors.

The No Action Alternative would continue unregulated camping, causing greater impacts to riverine vegetation and the Special Status Species that depend on these habitats.

Standard 5 – Water Quality

The Upper Colorado River in RMZs 1, 2, 3, and 5 is considered impaired due to stream temperatures and not fully supporting cold water class 1 aquatic life uses. RMZ 1 is also being reviewed by possible water quality impairment due to Arsenic concentrations, and all segments of the river within the SRMA are also being considered for listing for water quality impairment for aquatic life. The primary factor in the water quality concerns is the reduction in stream flows due to upstream diversions. Given the existing hydrology, what role, if any, recreational uses play in water quality is not determined.

Alternatives B and C should help reduce recreational impacts to the river corridor, by limiting the size and number and location of campsites. That action would be expected to reduce the amount of bare soil from campsites and paths, and some of the associated waste and trash, indirectly maintaining or protecting water quality. If a TMDL is developed for the area, or additional water quality concerns are raised, then a further review of potential impacts by recreation would be done and consideration of additional management actions.

6. SUPPORTING INFORMATION

Interdisciplinary Review

Table 2. List of Preparers

Name	Title	Area of Responsibility	Date Signed
Paula Belcher	Hydrologist	Air Quality; Surface and Ground Water Quality; Floodplains, Hydrology, and Water Rights; Soils; Wetland and Riparian Zones	12/5/17 2/11/2019
Bill Wyatt	Archaeologist	Cultural Resources; Native American Religious Concerns; Paleontological Resources	3/14/2018
Bill Falvey	Wildlife Biologist	Special Status Plant and Animal Species, Migratory Birds, Areas of Critical Environmental Concern and Aquatic and Terrestrial Wildlife	12/1/17
James Dahlkemper	Natural Resource Specialist (Weeds)	Invasive, Non-Native Species;	11/27/17
RC Lopez	Rangeland Management Specialist	Rangeland Management	11/1/17
Ken Belcher	Forester	Forest Management and Forest/Woodland Vegetation	11/30/17
CW Portell	Fire Management Specialist	Fuels and Fire Management	3/19/18
Shane Dittlinger John Monkouski	Outdoor Recreation Planner	Recreation; Lands with Wilderness Characteristics; Wilderness Study Areas; Wild and Scenic Rivers; Access and Transportation; Visual Resources; Scenic Byways	3/14/18
Jessica Lopez Pearce	Geologist	Geology and Minerals	10/31/2017
Annie Sperandio	Realty Specialist	Realty Authorizations	12/14/2017
Shane Dittlinger	Project Lead	Hazardous or Solid Wastes, Social and Economic Conditions, and Environmental Justice	12/14/17
Maribeth Pecotte	Planning & Environmental Coordinator	NEPA Compliance	11/30/2018 2/20/2019

Tribes, Individuals, Organizations, or Agencies Consulted

Tribal consultation was initiated with the Ute Mountain Ute Tribe, Southern Ute Tribe, Northern Ute Tribe, Eastern Shoshone, and Northern Arapaho Tribe in October 2016. No Native American religious concerns are known in the area, and none have been identified by the tribes. Concurrence of project effect was sent to the State Historic Preservation Officer (SHPO) on a no effect determination February 21, 2018.

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